

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

DANIEL SHAK and SHK DIVERSIFIED, LLC by
and through its Trustee, SHK MANAGEMENT,
LLC,

Plaintiffs,

v.

JP MORGAN CHASE & CO., J.P. MORGAN
CLEARING CORP., J.P. MORGAN SECURITIES
LLC, J.P. MORGAN FUTURES, INC. (now known
as J.P. MORGAN SECURITIES LLC),

Defendants.

Case No. 15 Civ. 992 (PAE)

SECOND AMENDED COMPLAINT

JURY TRIAL DEMANDED

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I. INTRODUCTION

1. Plaintiffs Daniel Shak and SHK Diversified, LLC (collectively, “Plaintiffs”) bring this action against JP Morgan Chase & Co., J.P. Morgan Clearing Corp., J.P. Morgan Securities LLC, J.P. Morgan Futures, Inc. (now known as J.P. Morgan Securities LLC) (collectively, “Defendants” or “JP Morgan”) for violations of Section 2 of the Sherman Act, 15 U.S.C. § 2, and New York General Business Law section 340.¹

2. In late 2010 and early 2011 (“Relevant Period”), JP Morgan, through its trader Robert Gottlieb (“Gottlieb”), built up a long position in certain long-dated silver futures spreads traded on the Commodity Exchange, Inc. (“COMEX”) with the intent and knowing ability to monopolize and manipulate the long-dated spread market. In particular, JP Morgan took long positions in the more nearby silver futures contracts (such as the December 2011 as well as others) while selling a more deferred December futures contract (such as December 2014, among others). The goal of this manipulation was to decrease the value of the deferred silver futures contracts relative to the nearby, creating large marked-to-market gains in the longer-dated contract that JP Morgan had sold. This “tightening” of the silver futures spreads also lowered the interest rate term structure that was implied by these futures price relationships.

3. These futures spreads, which hinged in part on the December 2014 contract, were illiquid and susceptible to manipulation. Indeed, during this time the COMEX silver futures market had few institutional participants besides JP Morgan. There were only a few market

¹ Plaintiffs’ support for their allegations made on information and belief include: (a) review of trading records; (b) expert analysis of futures and physical price information; (c) reports and rules and regulations of COMEX; (d) their own recollections and that of their broker and other plaintiffs in related actions, Grumet (Grumet v. JP Morgan Chase & Co., J.P. Morgan Clearing Corp., J.P. Morgan Securities LLC, J.P. Morgan Futures, Inc. (now known as J.P. Morgan Securities LLC)) and Wacker (Wacker v. JP Morgan Chase & Co., J.P. Morgan Clearing Corp., J.P. Morgan Securities LLC, J.P. Morgan Futures, Inc. (now known as J.P. Morgan Securities LLC)), who suffered similarly as detailed below; (e) reports of trading activity, open interest and other aspects of silver futures, and silver options trading; and (f) other investigation including that reflected in specific allegations.

participants willing to trade silver futures contracts in these deferred contracts. Of these, there were three or four “local” traders on the floor of COMEX or nearby the exchange who would enter into such large trades, particularly in the illiquid forward months.

4. Plaintiffs were such “traders,” conducting their own proprietary trading nearby to the exchange and executing their orders through a floor broker. Although with significantly less capital than JP Morgan, Plaintiffs still were one of the few large market makers in the silver (and gold) spread contracts during 2010 and the beginning of 2011. In their capacity as market makers, Plaintiffs took the opposite position to JP Morgan by selling *thousands* of March and December 2011 futures contracts while buying December 2012 and December 2013 (and to a lesser extent 2014) futures contracts at a time when the relationship was decoupling from other interest rate market benchmarks. JP Morgan held market power in these futures spreads through its dominant position in the illiquid forward silver futures contracts, especially the December 2013 and December 2014 contracts, but also the spread complex as a whole.

5. JP Morgan had taken “long spread” positions against the deferred contracts. That is, JP Morgan had been buying nearby silver futures contracts while selling the outlying ones, including and especially December 2014, but also the silver futures term structure as a whole. It had also entered into long calendar spread positions opposite Plaintiffs’ positions in other contracts in order to effectuate this strategy.

6. JP Morgan then commenced a systematic effort to artificially increase the profitability of its long calendar spreads and to force competitors such as Plaintiffs out of the market. It did this primarily by having its floor brokers place bids for the spreads in the trading ring that were highly artificial and out of line with the physical silver market. These bids were not consistent with the market rates made available to the public by the London Bullion Market

Association (“LBMA”). Remarkably, these bids were not even consistent with the quotes provided to the public by JP Morgan through the LBMA and other data service providers. During January and February 2011, JP Morgan’s brokers would, on a nearly daily basis, enter the trading ring and place the artificial bids just before the end of the trading session at 1:25 P.M. Eastern Time. When the market closed, JP Morgan brokers, who were part of the COMEX settlement committee to establish settlement prices, misrepresented to the settlement committee staff of the COMEX how spread prices should be valued, ignoring the settlement price that would have been fair and accurate given the then-current market conditions. On at least fourteen occasions in February 2011, JP Morgan brokers knowingly and intentionally manipulated the settlements. These brokers, at JP Morgan’s request, deceived the COMEX staff into reporting settlements for the deferred December silver futures spreads that were highly artificial, all to protect the spread positions, cement their monopolistic power, and guarantee profits of their principal.

7. Only a few market participants, including Plaintiffs, attempted to counter these artificial bids and indications. Quite soon – by February of 2011 – Plaintiffs and these other locals had been forced out of the markets, sustaining heavy losses as they exited, because of JP Morgan’s ever-increasing manipulation of the spreads. This exclusion of competitors allowed JP Morgan the opportunity to manipulate the spread even more once competitors, such as Plaintiffs, were gone. JP Morgan’s manipulation caused an unprecedented fabrication of settlement prices – an exaggerated dislocation and decoupling from the over-the-counter market.

8. This decoupling began at the end of 2010 and increased into 2011. Plaintiffs, who had taken large positions short the spreads, were put in a pincer. JP Morgan was squeezing the spreads and not providing any liquidity to allow Plaintiffs to exit the positions. The constantly

tightening spread prices caused by JP Morgan's manipulation required Plaintiffs to post higher and higher margin calls. By the latter part of January 2011, Plaintiffs were running out of capital to fund their position and were under intense pressure from the exchange to reduce their exposure. They had to capitulate. Through their Futures Commission Merchant ("FCM"), Plaintiffs sued for peace. The FCM owner, Martin Greenberg ("Greenberg"), called JP Morgan's head of global commodities – Blythe Masters ("Masters") – and told her that her trader (Robert Gottlieb) was "running Daniel Shak in." Blythe Masters asked what it would be worth to the FCM to get Plaintiffs out of the position immediately, which was what the COMEX required. Ultimately, over the weekend of January 22-23, 2011, a multi-party deal was reached whereby JP Morgan would take over Plaintiffs' gold spread positions and some of their silver spread positions, while a hedge fund (Wolverine Asset Management LLC) would take over the other portion of the spread positions. For this transaction, in addition to their existing losses, Plaintiffs were required to pay \$2.1 million to JP Morgan and \$4.8 million to Wolverine.

9. On January 24, 2011, the entirety of Plaintiffs' silver positions was transferred to JP Morgan and Wolverine. Plaintiffs believe that JP Morgan did not choose to take all of the silver positions because to do so would have revealed that JP Morgan indeed was on the other side of these spread trades. That is, if JP Morgan had taken over these massive spread positions, open interest (the number of outstanding positions in the market for a given contract) would have plummeted. JP Morgan did not want to reveal its role as the manufacturer of the squeeze in the market.

10. JP Morgan actions were taken to affect a scheme of predatory bidding. JP Morgan first bid up the cost of silver futures calendar spreads far beyond the legitimate price of its economic outputs, widely recognized to be the sum of the expected value of the underlying

silver bullion plus carrying expenses and interest of the near and far leg of the spread. JP Morgan's only possible intent in paying more for the whole than its parts were worth, was the hope of recouping these losses and more through the monopolistic effects of its overbidding. The unnatural rise in price of silver calendar spreads made it impossible for other market participants to continue trading. The capitulation of these traders allowed JP Morgan to recoup its overbidding losses through unwinding its positions at an unnatural premium.

11. This anticompetitive conduct removed any remaining competitors who could check its nearly unfettered ability to control the COMEX settlement prices of silver futures. JP Morgan used this ability to artificially deflate long dated futures settlement prices in order to lower the price it paid for physical silver through producer hedging transactions. Silver miners routinely hedge the price of the silver they plan to produce in the future by engaging in long term hedging transactions with investment banks such as JP Morgan. These hedging contracts, commonly priced by reference to COMEX silver spread prices, would allow JP Morgan to lock in the low price of silver in the future implied by the manipulated spreads, before its artificiality was dissipated by converging with prices in the silver spot market.

12. Plaintiffs lost approximately \$25 million dollars by virtue of their liquidation and Plaintiff SHK Diversified LLC shut down operations. Since that time, Plaintiff Daniel Shak has been circumscribed in his trading from the loss of access to capital for his operations. If Plaintiffs had been able to hold the calendar spread positions through this artificial period, their gains would have been many multiples of their losses, totaling no less than \$100 million.

13. Whatever JP Morgan's motive may have been, there is no innocent, economically legitimate motive to purchase an economic input, such as the long silver spreads, at prices higher than its output, here the underlying physical silver and interest rates.

II. JURISDICTION AND VENUE

14. This Court has jurisdiction over this action pursuant to Section 2 of the Sherman Act, 15 U.S.C. § 2, and Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15 and 26(a), and 28 U.S.C. § 1331.

15. This action also arises under N.Y. G.B.L. § 340. This Court has supplemental jurisdiction pursuant to 28 U.S.C. § 1367.

16. Venue is proper pursuant to 15 U.S.C. § 22 and 28 U.S.C. § 1391(b), (c) and (d), as the acts described herein occurred primarily in this District. Defendants transacted business in this District, the claims arose in this District, and a substantial part of the events giving rise to the claims asserted herein occurred in this District.

III. PARTIES

A. Plaintiffs

1. Daniel Shak

17. Plaintiff Daniel Shak (“Shak”) is a resident of Las Vegas, Nevada. Mr. Shak manages money for his own account and, at relevant times, managed money for an affiliated commodity pool operator (“CPO”). Mr. Shak is a metals trader, focusing primarily on spread trading in silver and gold futures spread contracts. He has been in the trading business for over 35 years, having spent much of that time as a trader on the floor of the Commodity Exchange, Inc. (“COMEX”).

2. SHK Diversified LLC

18. Plaintiff SHK Diversified, LLC (“SHK Diversified”), is a Delaware limited liability company, which is authorized to appear and litigate in this action by and through its trustee, SHK Management, LLC (the “Trustee”). SHK Diversified was a commodity pool that

was run by Plaintiff Daniel Shak's CPO.

B. Defendants

19. Defendant J.P. Morgan Chase & Co. is a Delaware corporation headquartered at 270 Park Avenue, New York, New York 10005. J.P. Morgan Chase & Co. is a multinational banking and financial services corporation.

20. Defendant J.P. Morgan Clearing Corp. is a Delaware corporation headquartered at 4 Chase Metrotech Center, Brooklyn, New York 11245. J.P. Morgan Clearing Corp. offers securities and futures clearing, settlement, lending, and related services to traders, hedge fund managers, broker-dealers, and investment advisors. It also provides operational and administrative services for registered broker-dealers.

21. Defendant J.P. Morgan Securities LLC is a Delaware corporation headquartered at 383 Madison Avenue, New York, New York 10179. J.P. Morgan Securities LLC offers security brokerage services and provides cash and wealth management; stock and options management; and education and retirement planning services.

22. Defendant J.P. Morgan Futures, Inc. (now known as and merged with and into J.P. Morgan Securities LLC) was a Delaware corporation headquartered in New York, New York until June 1, 2011, at which date it was acquired by J.P. Morgan Securities LLC.

IV. FACTUAL ALLEGATIONS

A. The Silver Futures Market

23. Silver futures contracts and silver options contracts are traded on COMEX. These contracts, during 2010-2011, were traded in both an "open outcry" setting and on an electronic trading platform. Longer-dated spreads, such as the ones Plaintiffs traded, were nearly always traded in an open-outcry fashion.

24. COMEX is a division of the New York Mercantile Exchange ("NYMEX", owned

and operated by CME Group of Chicago (“CME”). COMEX has been designated by the CFTC as a designated contract market pursuant to Section 5 of the CEA, 7 U.S.C. § 7. COMEX submits various rules and regulations for approval to the CFTC, through which COMEX designs, creates the terms of, and conducts trading in various precious metals futures and options contracts, including futures and options contracts for silver. COMEX is an organized, centralized market that provides a forum for trading silver futures and options contracts.

25. COMEX provides standardized silver futures contracts with delivery dates commencing with the next calendar month and potentially extending as far as 60 sequential months into the future depending upon the month in which the contract was executed. Typically, there are only a handful COMEX futures contracts trading at any given time. Trading is conducted for “delivery” during the current calendar month.

26. A silver futures contract is an agreement to buy or sell a fixed amount of silver at a date in the future. The COMEX specifies the terms of trading, including the trading units, price quotation, trading hours, trading months, minimum and maximum price fluctuations and margin requirements.

27. Trades of silver futures contracts on the COMEX have two “sides.” The “long” side represents the buyer of a contract who is obligated to pay for the silver and take delivery. The “short” side represents the seller of a contract who is obligated to receive payment for the silver and make delivery. If a market participant holds its position to the end of the settlement period for a silver futures contract, the market participant is obligated to go to “delivery.” That is to say, upon the settlement date, the “futures” contract for a particular month becomes a present contractual obligation for the purchase and sale of the physical silver. Longs must take delivery and shorts must make delivery of 5,000 troy ounces per contract over the course of the

contract month. The price for the silver that goes to delivery is the “settlement price” of the COMEX silver futures contract.

28. The COMEX Silver futures (SI) active month is the most nearby futures contract and is settled by CME based on trading activity between 13:24:00 and 13:25:00 Eastern Time (ET). Settlement for this contract typically occurs as a “volume-weighted average price (VWAP), rounded to the nearest \$0.001 per troy ounce.”² The COMEX Silver futures (SI) non-active months are settled by the silver futures settlement committee of the CME based on a variety of factors during the trading day. The pricing conventions for these contracts is as follows:

In the absence of trading activity, **settlements are determined using the spread bids/asks actively represented either on the trading floor or on Globex.** In the event that there is insufficient activity to make the above calculations, staff may rely on earlier data or other available market information to determine an appropriate settlement price.

Id. (emphasis added).

29. Floor brokers and traders on the COMEX floor traded in an open-outcry format in silver futures pit or ring. This ring was filled with people who would verbally exchange pricing information, bids and offers and execute trades. In addition to the ring, silver futures could be traded electronically on a platform known as GLOBEX. Trading on GLOBEX overlapped with trading on the floor.

30. Only a small percentage of all futures contracts traded each year on COMEX and other exchanges result in actual delivery of the underlying commodities. Instead, traders generally offset their futures positions before their contracts mature. For example, a purchaser of a silver futures contract can cancel or offset a trader’s future obligation to the contract

² See <http://www.cmegroup.com/trading/metals/files/daily-settlement-procedure-silver-futures.pdf>.

market/exchange clearing house to take delivery of silver by selling an offsetting futures contract. The difference between the initial purchase or sale price and the price of the offsetting transaction represents the realized profit or loss.

31. A spread contract is a “calendar spread” consisting of alternating positions in two futures contracts. A “long” calendar spread is a purchase of a futures contract in a particular month and a sale of the same quantity in a subsequent month. Conversely, a “short” calendar spread is a sale of the future contract in a particular future month and a purchase of the same quantity in a subsequent month.³ Traders realize a profit on a calendar spread when they predict correctly whether the price of the commodity in the second month will go up (a long spread) or down (a short spread) compared to the price in the first month. The greater the fluctuation in price between the two months, the more profit the investor realizes.

32. The silver futures spreads are calculated by taking the difference between these silver futures settlement prices (*e.g.*, SIZ12 – SIZ13⁴ is an example of 1-year futures spreads).

33. The spreads between silver futures contracts on a specific day are essentially indicators of the interest rate term structures of silver prices on that day. Calendar spreads, which have a relationship to interest rates, are generally more liquid in the deferred futures months than outright trading in those futures contracts. In accord with settlement rules, the settlement prices of deferred futures contracts is thus often determined by reference to the pricing of the calendar spreads since interest rates are relatively transparent and trading on spreads has

³ In the silver market, traders often (confusingly) reverse this nomenclature because they are describing their positions in terms of the interest rate structure of the market. That is, to “go long” the spread is to sell the interest rate implied by selling the nearby and purchasing the deferred contracts; whereas to “go short” the spread is to buy the interest rate implied by purchasing the nearby and selling the deferred contracts.

⁴ In COMEX nomenclature “S” stands for silver and “Z” stands for December. Thus SIZ12 is the December 2012 silver futures contract. The other futures months are also denoted by letters: “F” for January, “G” for February, “H” for March, “J” for April, “K” for May, “M” for June, “N” for July, “Q” for August, “U” for September, “V” for October and “X” for November.

an interest rate dimension.

34. In the commodity futures market “open interest” is the term used to define the total number of futures contracts long or short in a delivery month or market that has been entered into and not yet offset or fulfilled by delivery. Each open transaction has a buyer and a seller, but for calculation of open interest, only one side of the contract is counted.

35. Futures “volume” is the number of contracts in futures or options on futures transacted during a specified period of time.

36. The deferred silver futures months, such as December 2012, December 2013 and December 2014, had progressively lower volumes and open interest. The active month before delivery had the highest. In other words, these deferred silver futures contracts were illiquid and thinly traded.

37. In addition, the concepts of “contango” and “backwardation” are critical to understanding JP Morgan’s manipulation of the silver futures market.

38. For most commodities, the price of a futures contract includes such carrying costs as storage, insurance, financing, and other expenses the producer incurs as the commodity awaits delivery. Thus, typically, the further in the future the delivery date, the greater the purchase price of the futures contract. This is especially true for silver, as silver futures contracts trade as financial instruments with an implied interest rate term structure. This relationship is known as “contango.” *See* Virginia B. Morris and Kenneth M. Morris, *Standard & Poor’s Dictionary of Financial Terms* 41 (2007); *see also* Barbara J. Etzel, *Webster’s New World Finance and Investment Dictionary* 74 (2003) (“contango[:] A pricing situation in which the prices of futures contracts are higher the further out the maturities are. This is the normal pricing pattern because carrying charges such as storage, interest expense, and insurance have to be paid in order to hold

onto a commodity.”).

39. If there is a shortage or tightness in immediate supply for a commodity, traders are willing to pay a higher premium for near-term supply relative to long-term supply. Such a market condition is the opposite of contango and is called “backwardation.” *See* Jerry M. Rosenberg, *Dictionary of Banking and Finance* 41 (1982) (“backwardation: a basic pricing system in commodities futures trading. A price structure in which the nearer deliveries of a commodity cost more than contracts that are due to mature many months in the future. A backwardation price pattern occurs mainly because the demand for supplies in the near future is greater than demand for supplies at some distant time.”).

40. In the silver futures market, backwardations are extremely rare given the silver futures curve’s inherent relationship to interest rates, which are always positive. This is especially the case for longer-dated spreads, *i.e.*, those beyond one year in duration, since a backwardated condition in the nearby futures contract is usually short lived. Short-term dislocations and disruptions normally have been corrected by market arbitrageurs and through the increase of supply by silver producers.

B. The Silver Over-the-Counter Market

41. Silver is also traded over the counter (“OTC”). The silver OTC market consists generally of bi-lateral contracts between parties for various sorts of silver swaps and other derivatives. The details and pricing of these transactions are generally not published or otherwise publicly available, although fairly precise measures of the mid-points of the prevailing bids and offers have generally been available either through the LBMA or through contributors of such data to service providers such as Bloomberg.

42. Like the silver futures spreads, the silver OTC forwards market is driven largely by its economic outputs, incorporating both a money borrowing rate component as well as an

underlying borrowing rate for the metal itself.

43. Silver Indicative Forward Mid Rates (“SIFO”) was the silver indicative forward mid-rate benchmark provided by London Bullion Market Association (LBMA) at 11:00 a.m. London time everyday based on individual submissions of at least six contributors. SIFO rates were published for five tenors (1, 2, 3, 6, and 12 months) based on the submissions received from a panel of banks (in much the same way that LIBOR is calculated). SIFO was disseminated through Reuters and is the interest rate a borrower will pay on a USD loan which is collateralized with silver.

44. SIFO was calculated as the trimmed arithmetic mean of contributed values after removing the highest and the lowest submissions. SIFO rate was essentially an indicative rate of silver forward points in the format of percentage of the silver spot price, *e.g.*, a 1% 1-year SIFO on a \$15 silver spot price will indicate a 1-year silver forward price of \$15.15 (*i.e.*, $\$15 + (0.01 \times 15) = \15.15). The 1-year forward point would be 15 cents.

45. For the purpose of simplicity, references to “SIFO” refer to the forward points implied by the published rates.

46. SIFO was a reliable benchmark because of the number of market contributors and because it is a trimmed mean. The long-dated silver swap market can often be inactive and illiquid especially after the close of the London trading market. For this reason, SIFO rates, which are reported before the COMEX close, would likely still be an accurate reflection of the most recent silver market conditions at the time of COMEX close.

47. The LBMA discontinued SIFO in November 2012. The LBMA made the following observation in discontinuing SIFO:

Following consultation with the LBMA forward Market Makers, and more generally with other market participants, the LBMA Management Committee has

agreed that after 2nd November 2012, the forward Market Makers will cease making contributions of their mid-price silver forward rates to allow the calculation of the SIFO means on the Reuters system each day.

See <http://www.lbma.org.uk/silver-forwards>.

48. Without the SIFO benchmark, transparency in the silver over-the-counter market has been reduced.

C. The Relationship Between Silver Futures and SIFO

49. In silver swap transactions, party A can construct a “synthetic” 3-month silver swap by selling his silver in the spot market and purchasing a silver future that will expire in 3 months. By the law of no arbitrage, the rate that party A is paying for this transaction (the synthetic silver swap rate, or simply the spread between the 3-month future price and the spot price) should be similar to 3-month SIFO (once units have been appropriately converted).

50. The reason the synthetic silver swap rate and 3-month SIFO should be similar is because if the latter transaction costs less than a silver swap, arbitrageurs will quickly spot this opportunity and exploit the mispricing by entering into the synthetic swap using the futures market and taking an offsetting position in the OTC market using a silver swap. In doing so, arbitrageurs force the two rates to converge to each other.

51. In the instance of January or February 2011, however, creating an arbitrage position to exploit any perceived mispricing may not have been possible. If a trader felt, at that time, that the SIZ14 – SIZ12 futures spread was mispriced, they would need to enter into a two-year silver swap that was forward starting in 22 or 23 months (from January/February 2011 until December 2012). There is no such observable forward lending market, however.

52. More specifically, the OTC silver market is an opaque market where, on average, only a few hundred transactions are cleared via the LBMA on a daily basis. The table below shows the daily average number of silver transactions (including bullion trades, swaps, OTC

options, etc.) from January 2011 through March 2011:

Month	Number of transactions	Ounces transferred (millions)	Value (US\$ billions)
Jan-11	597	119.7	3.4
Feb-11	591	141.2	4.3
Mar-11	685	145.7	5.2

53. These trades are only reported in general, undifferentiated terms, and not by type of transaction or price. Moreover, while these figures are relatively small in themselves, the chance that transactions in 23-month forward-starting 2-year silver swaps make up a significant portion of this trading much smaller.

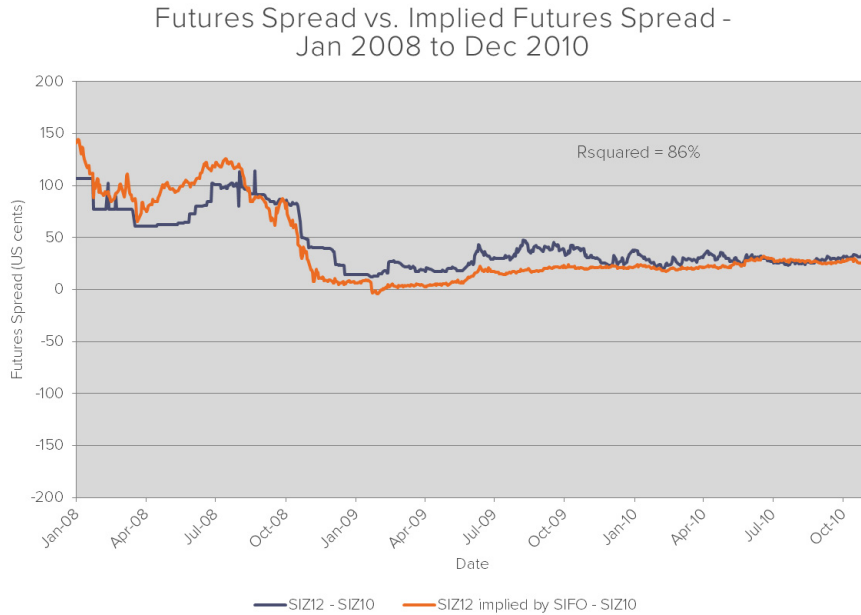
54. Thus, generally speaking, there is no liquid silver market with maturity beyond 1 year. As discussed herein, there may be some longer-dated forwards and/or forward swaps, but these would be bespoke and negotiated individually between parties including miners, refiners, etc. and would not, therefore, be observable to general market users.

55. The lack of observability and liquidity in the market for forward-starting silver swaps is a key reason why arbitrage is not possible here. As such, even if a trader believes the market to be mispriced, there is no mechanism available to exploit this.

56. In sum, this lack of observability and liquidity explains why the current (as of January/February 2011) 1-year SIFO is used as a benchmark for the SIZ14 – SIZ12 futures spread: there is no better alternative.

57. As shown in the following graph, 1-year SIFO was, in fact, a good indicator of deferred 2-year futures spreads until the end of 2010.⁵ As such, it is clear that SIFO is an adequate benchmark for comparison in this instance.

⁵ The SIZ12 – SIZ10 futures spread is used here due to greater availability of historical data.



D. The Silver Futures and Over-the Counter Market Had Few Active Participants in the Deferred Spreads During Late 2010 and 2011

58. In the mid-1980s, there were at least 15 to 20 different banks that would provide quotes for silver swaps in the OTC market.

59. Somewhere between the year 2000 and 2008, many market-making financial institutions (primarily banks) began to scale down their precious metal desks. Trading desks were either closed or limited to trading out of their London office. In addition, some decided that they would no longer make markets in either spot bullion or bullion swaps. These banks essentially became customers of the banks that remained as market makers.

60. As market makers disappeared, liquidity in the silver futures market suffered significantly as a result. By January, 2011, no more than four or five banks even cared enough to call the COMEX pit for spread quotes. Of those, only three generally expressed an interest in which spreads were trading or where particular spreads were actually settling. Those banks included: JPMorgan, ScotiaMocatta, and BNP Paribas. In addition, the number was even smaller than three since BNP Paribas, although nominally a market maker, often acted more as a

customer than a market maker.

61. The presence of only 2 or 3 banks (including JPMorgan) explains why JPMorgan was able to dominate the market, particularly in the illiquid, thinly traded spreads in 2011. JP Morgan's manipulations would never have been possible ten years before the time that they occurred.

62. In summary, the deferred silver futures spread market in January 2011 essentially consisted of JPMorgan on one side and a small number of lower capitalized and very vulnerable locals and other independent proprietary traders acting as market makers on the other. Plaintiff Shak (and the hedge fund he controlled) was one such trader.

E. The Relevant Market and Interstate Commerce

63. The relevant product market in this case is silver futures spread market and in particular the "long-dated" silver futures spread market.

64. The geographical market comprises physical and electronic trading parameters of the listed silver futures contract on the COMEX.

65. Silver futures spread contracts are transacted in interstate commerce.

F. JP Morgan Manipulated the Relevant Market

66. During the relevant time period, late 2010 and the first half of 2011, JP Morgan's silver trading desk was controlled by Robert Gottlieb. Gottlieb, a managing director at JP Morgan, controlled the decision making for JP Morgan's silver positions and took the primary role in trading JP Morgan's silver spreads. Robert Gottlieb did not trade on the floor of COMEX directly, choosing instead to employ various COMEX floor brokers to execute his orders. As further described below, Robert Gottlieb used these brokers to make uneconomic trades and to manipulate closing prices of silver spreads.

67. Robert Gottlieb's primary broker during this period was Bob Hansen, whose floor

tag was “CPTN.” Mr. Gottlieb also used a floor broker whose first name was Anthony and whose floor tag was “AC.” When these two traders were trading their own books or were otherwise engaged, they might pass Mr. Gottlieb’s business to certain other brokers, particularly ones with the floor badge “PLS” and “GID.” It was widely known on the floor that executions of larger size spread orders by brokers AC and CPTN were generally executed on behalf of JP Morgan and directed by Robert Gottlieb.

1. Market Power Manipulation

68. During the relevant period, JP Morgan engaged in market power manipulation of the deferred silver futures spreads. This manipulation consisted of taking large long positions in the nearby silver futures months (*e.g.*, December 2011) against short positions in the deferred futures months, in particular December 2012, December 2013 and December 2014. The liquidity of these deferred futures positions was exceptionally low, particularly for the spreads having December 2013 and December 2014 as one leg.

69. JP Morgan’s market power is demonstrated by the high percentage of open interest it comprised in the deferred spreads. Because the first leg of the calendar spreads are in contracts that are more liquid, JP Morgan’s high concentration in the spreads can be measured by the less liquid of the legs. This concentration appears most clearly in the deferred calendar spread of December 2013 and December 2014. In these spreads as well, JP Morgan’s market power is demonstrated by the percentage of total volume JP Morgan’s commanded on particular trading days.

70. Although COMEX does not report the identity of the holders of open interest, or identify who created the volume in any contract, JP Morgan’s levels of volume and open interest can be partly ascertained because it forced Plaintiffs out of the market by refusing to provide

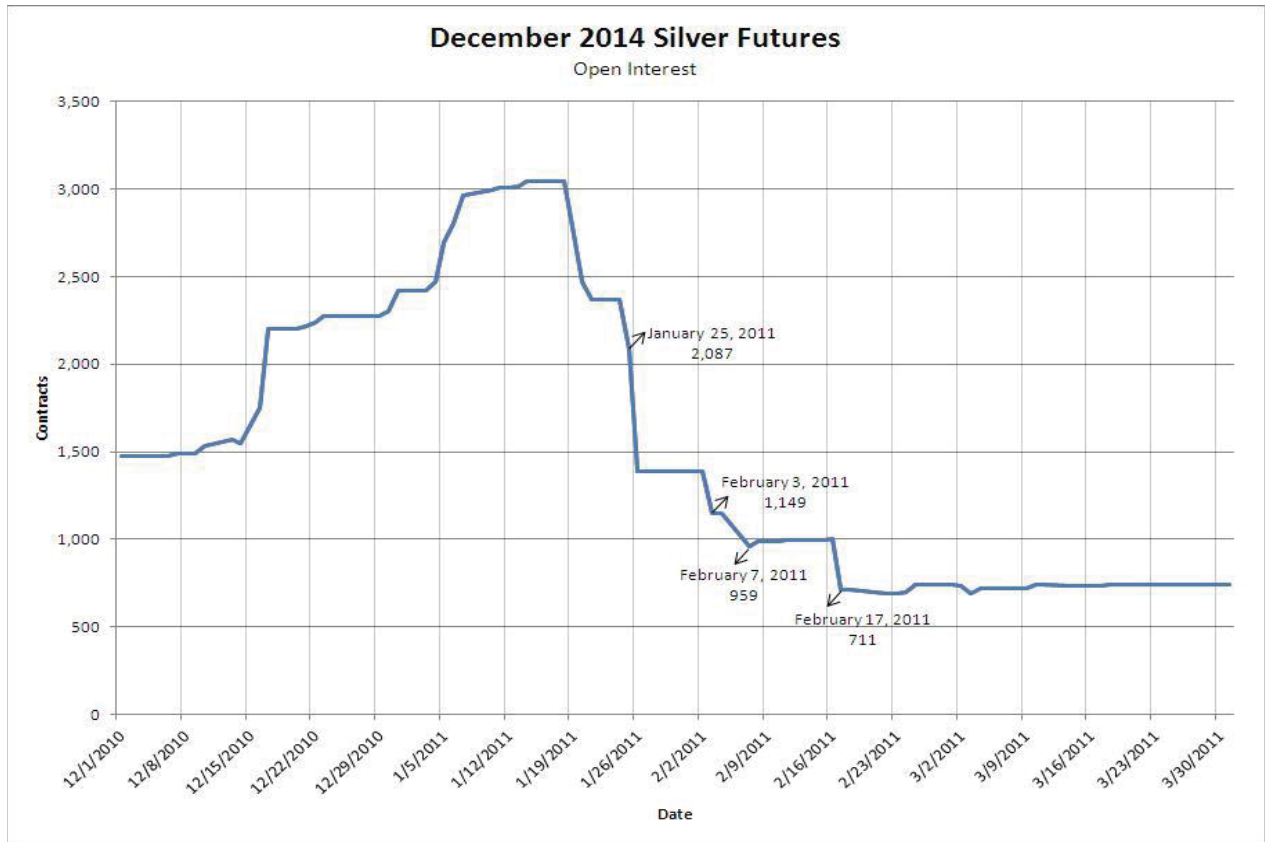
spread quotes that would allow Plaintiffs to exit. JP Morgan's positions also can be adduced in part through its conduct on the floor, which is described more fully below.

71. In addition, after JP Morgan forced Plaintiffs out of the market, it thereafter squeezed two local COMEX silver traders. These traders (Thomas Wacker and Mark Grumet, plaintiffs in related cases) were primarily trading the long-dated silver spreads with the deferred contract the highly illiquid December 2014 futures. JP Morgan was the counterparty to these traders when it forced them out of the market (requiring them to sell December 2014). And when these traders liquidated, open interest in the December 2014 futures leg of the spread reduced by amounts of the trade, showing that JP Morgan was the owner of those contracts.

72. JP Morgan's market power manipulation is demonstrated on January 24, 2011, when Plaintiffs had to transfer their positions to JP Morgan and Wolverine. In addition, JP Morgan's market power manipulation is demonstrated on January 25, 2011, February 3, 2011, February 7, 2011 and February 17, 2011, among other dates, as JP Morgan forced out other locals in related cases who were short the December calendar spreads. In those instances as well, JP Morgan had the dominant position in the spreads and the open interest declined as JP Morgan unwound its squeeze.

DECEMBER 2014 CONTRACT					
Date	Plaintiffs' Total Trades	Open Interest	Open Interest Movement	Volume	% of Total / Volume
January 25, 2011	Wacker – (164)	2,087	Decreased 281	866	18.9%
February 3, 2011	Wacker – (251)	1,149	Decreased 238	267	94.0%
February 7, 2011	Wacker – (215)	959	Decreased 188	256	84.0%
February 17, 2011	Grumet – (315)	711	Decreased 294	451	69.8%

73. This reduction in open interest in the December 2014 silver futures contract can also be seen in the form of a graph, below.



74. Overall, JP Morgan's strategy was simple. JP Morgan built up a long silver spread position over time with the anticipation that it would eventually be able to manipulate the market through artificial settlements, ultimately forcing the liquidation of positions by other market participants. This, in turn, would allow JP Morgan even more monopolistic power. It was not primarily the purchases that cause the market movement. Rather, it was JP Morgan's failure to act with its dominant positions. That is, they continued to bid the market in an artificial direction at the expense of those on the other side of the spread who had few options when the market was moving (artificially) against them. It was this basic premise that manipulated the market.

75. However, in addition to creating these positions, JP Morgan engaged in other, highly anticompetitive and manipulative conduct to drive the market in the direction it desired and to acquire and maintain monopoly power. This conduct is described more fully below.

2. Willful Acquisition of Monopoly Power Via Exclusionary Conduct

76. JP Morgan made large manipulative trades that repeatedly caused sudden, unreasonable, and artificial fluctuations in COMEX silver spread prices. JP Morgan was the dominant player in the silver futures market at this time with significantly more capital than its counterparties – principally the locals who traded the spreads. Because of this, JP Morgan was able to move the market through trades (or better yet, bids and offers) designed solely to move the market artificially, rather than for any economic justification, such as hedging. This sort of conduct occurred with greatest frequency toward the close of trading, starting around 1:15 pm (*i.e.*, 10 minutes before the close).

77. Throughout the day, the deferred calendar spreads remained extremely inactive. Indeed, there was very little intraday trading of much significance during that period for the spreads that were manipulated. It is precisely the absence of this trading that provided JP Morgan the opportunity to manipulate the spreads on the close (or in the last 10 minutes of trading).

78. JP Morgan's goal in placing these spread orders just before the close was to influence the settlement price. As discussed above, settlement prices in the non-active futures contracts were arrived at by a COMEX settlement committee which, in its discretion, reviewed market information from the day and set prices. The settlement committee, on which JP Morgan's brokers sat, was specifically directed to look at spread prices to determine settlement prices. By placing large, uneconomic spread bids and offers in the ring (and on the electronic

platform) just prior to the close, JP Morgan was able to move the settlements in the direction of its position each day. In the period from January 2011 to May 2011, that direction meant a tightening of the spreads toward backwardation.

79. Robert Gottlieb at times employed the same methods of manipulation in the electronic market. There, bids and offers received also reflected JP Morgan's brokers' conduct on the floor toward the end of the trading day (*i.e.*, just before 1:25 P.M.).

80. Notably, JP Morgan contradictorily did not report equivalent tightness or backwardation in the over-the-counter markets as demonstrated by its SIFO submissions – as discussed more fully below. That is, not long after JP Morgan had made submissions to the LBMA showing less tightness in the forward markets, its brokers entered the COMEX ring at the settlement to argue, on JP Morgan's behalf, that the spreads were significantly tighter than the reported physical market.

81. There was no legitimate economic justification for JP Morgan to argue for higher levels of backwardation in the COMEX futures market and, at the same time, make SIFO submissions to the LBMA in the forward market that stated much lower levels of backwardation or none at all. SIFO is simply the measure of the interest rate that one pays on a loan collateralized with silver.

82. Two COMEX employees managed the silver futures settlement during the time in question. These employees were: Michael Hillebrenner (who, at that time, was the "Settlements Manager") and Michael Cazakoff (who, at that time, was the "Settlements Analyst"). Only one of these employees would come down each day to deal with the settlements. These employees were not sophisticated traders in the market and were easily influenced by JP Morgan's arguments and spread quotes. They mistakenly did not look to the over-the-counter market to

check the veracity of the information they received.

83. Robert Gottlieb's practice at this time was to be on the phone throughout every trading day with three "nicknamed" floor clerks: Doug (who worked for broker "PLS"), "Steve Sox" (who worked for broker "CPTN"), and John "Hugo" (who worked for broker "AC"). There were roughly 15 floor brokers in the silver pit at that time.

84. The relationship between AC and Robert Gottlieb was very good. Despite this, Robert Gottlieb was very hard on AC's and the other brokers' clerks. For instance, he had at various times abused "Steve Sox" (CPTN's clerk) as well as Doug. Indeed, Robert Gottlieb's power with the brokers was such that he was known to fire the clerks of the brokers who did not co-operate with his end of day manipulative requests or who were not able to pressure the settlement committee to accept Gottlieb's manipulated settlement prices. Although Gottlieb did not employ those clerks, he insisted on their dismissal. Those fired clerks included John "Hugo" and his predecessor, Anthony, who both worked for AC.

85. Robert Gottlieb's power over his brokers was such that during January and February 2011 (and thereafter), he caused CPTN and AC to harangue the COMEX employees in order to obtain JP Morgan's desired settlement spreads. CPTN's and AC's justifications were based on JP Morgan's uneconomic, artificially tight bids and offers for calendar spreads that were introduced to the market just before the close.

86. Thus, under Robert Gottlieb's significant pressure, AC and CPTN argued the settlements for the spreads, particularly December long-dated spreads. AC and CPTN did this on JP Morgan's behalf and in order to advantage JP Morgan's silver positions. Moreover, JP Morgan could affect the entire term structure by pressuring down the December 2014 futures. This is because the settlement committee would use the spreads to determine outright prices.

The long-dated December futures contracts were the edge of the accordion that caused the entire term structure of futures contract prices to move inward or outward, depending on JP Morgan's capricious pressure.

87. In addition to driving Shak Plaintiffs out of the market in late January, on at least fourteen dates in February, 2011, JP Morgan knowingly violated the then-existing COMEX settlement rule when Gottlieb pressured the COMEX representative (Hillebrenner or Cazakoff, depending on the date) to settle at the price that JP Morgan dictated. This conduct was aimed at gaining even more monopoly power and eliminating players from the market. These egregious prices were artificial and were not based on actual and realistic bids and offers during market trading.

88. The resulting discrepancy between the actual December 12 - December 14 settlement and the appropriate settlement using SIFO as a guide forced JP Morgan's competitors from the market.

89. On February 3, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan's agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -8.3 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan's last minute banging of the close). JP Morgan's conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the "appropriate

settlement price.” Because of JP Morgan’s false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -8.3 cents whereas the published SIFO was 0.12% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been 0.7 cent.

90. On February 4, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan’s agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -7.3 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan’s last minute banging of the close). JP Morgan’s conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the “appropriate settlement price.” Because of JP Morgan’s false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -7.3 cents whereas the published SIFO was -0.02% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been 1.2 cents.

91. On February 7, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan’s agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -9.8 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had

been further manipulated by JP Morgan's last minute banging of the close). JP Morgan's conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the "appropriate settlement price." Because of JP Morgan's false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -9.8 cents whereas the published SIFO was -0.024% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been -1.4 cents.

92. On February 8, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan's agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -11.5 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan's last minute banging of the close). JP Morgan's conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the "appropriate settlement price." Because of JP Morgan's false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -11.5 cents whereas the published SIFO was -0.0025% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been -0.1 cent.

93. On February 9, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan's agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -12.5 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan's last minute banging of the close). JP Morgan's conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the "appropriate settlement price." Because of JP Morgan's false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -12.5 cents whereas the published SIFO was -0.0225% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been -1.3 cents.

94. On February 10, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan's agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -12 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan's last minute banging of the close). JP Morgan's conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations

did not rely on earlier data or other available market information to determine the “appropriate settlement price.” Because of JP Morgan’s false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -12 cents whereas the published SIFO was 0.048% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been -2.9 cents.

95. On February 11, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan’s agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -9.3 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan’s last minute banging of the close). JP Morgan’s conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the “appropriate settlement price.” Because of JP Morgan’s false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -9.3 cents whereas the published SIFO was -0.0483% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been -3 cents.

96. On February 14, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan’s agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -10.3 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread

number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan's last minute banging of the close). JP Morgan's conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the "appropriate settlement price." Because of JP Morgan's false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -10.3 cents whereas the published SIFO was 0.04% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been -2.5 cents.

97. On February 15, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan's agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -16.5 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan's last minute banging of the close). JP Morgan's conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the "appropriate settlement price." Because of JP Morgan's false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -16.5 cents whereas the published SIFO was -0.054% and the implied December 12 - December 14

settlement based on prevailing SIFO rate would have been -3.3 cents.

98. On February 17, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan's agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -30 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan's last minute banging of the close). JP Morgan's conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the "appropriate settlement price." Because of JP Morgan's false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -30 cents whereas the published SIFO was -0.14% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been -8.7 cents.

99. On February 18, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan's agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -37.5 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan's last minute banging of the close). JP Morgan's conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures

markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the “appropriate settlement price.” Because of JP Morgan’s false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -37.5 cents whereas the published SIFO was -0.368% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been -22.8 cents.

100. On February 22, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan’s agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -50 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan’s last minute banging of the close). JP Morgan’s conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the “appropriate settlement price.” Because of JP Morgan’s false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -50 cents whereas the published SIFO was -0.58% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been -36 cents.

101. On February 23, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan’s agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -55.3 cents. This spread

number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan's last minute banging of the close). JP Morgan's conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the "appropriate settlement price." Because of JP Morgan's false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -55.3 cents whereas the published SIFO was -0.425% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been -26.3 cents.

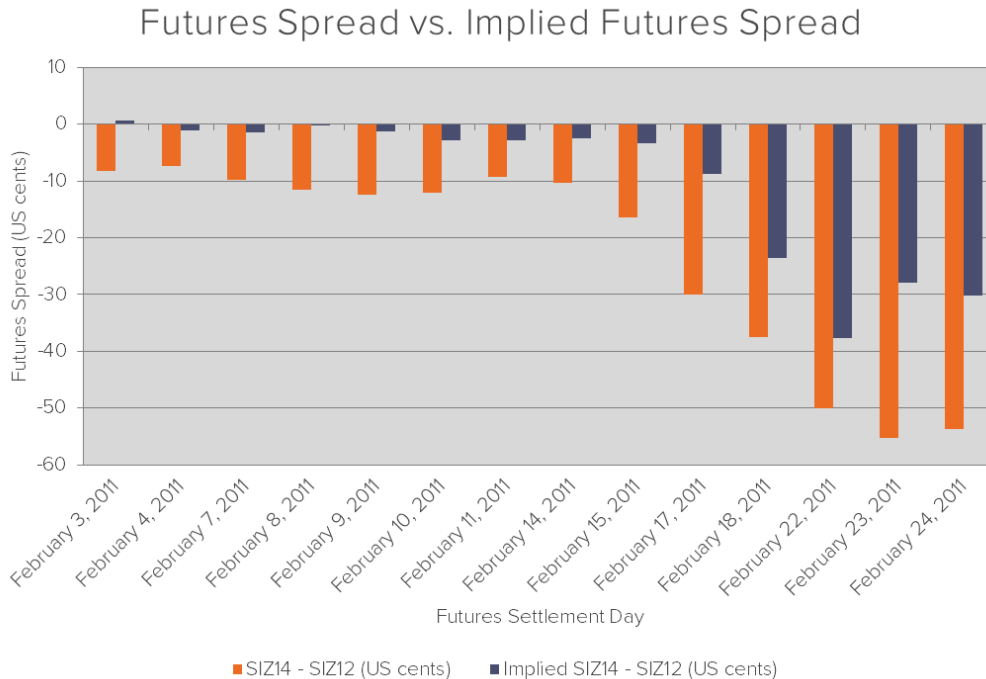
102. On February 24, 2011, JP Morgan manipulated the spread to settle at an artificial price beneficial to only JP Morgan. At the close, JP Morgan's agent, CPTN, told the COMEX representative that the December 12 - December 14 spread was at -53.7 cents. This spread number had no bearing on where the market had been trading the entire day. Nor was this spread number consistent with the midpoint of bid-ask at the close (a bid ask, which in any event had been further manipulated by JP Morgan's last minute banging of the close). JP Morgan's conduct violated the settlement procedures first because there had been no trading activity and the settlements was not determined using the spread bids/asks actively represented in the futures markets. The conduct further violated the settlement procedures because the above calculations did not rely on earlier data or other available market information to determine the "appropriate settlement price." Because of JP Morgan's false reports, which the COMEX representative accepted as true reflections of the market, the December 12 - December 14 settlement was -53.7

cents whereas the published SIFO was -0.4167% and the implied December 12 - December 14 settlement based on prevailing SIFO rate would have been -26 cents.

103. As shown in the table below, on the 14 days described above, observed silver futures spreads were much more negative (in a more pronounced state of backwardation) than the implied silver futures spread. This is equivalent to saying that on the same days, the published 1-year SIFO was much larger than the silver forward rate implied by the observed futures spread. JP Morgan's 1-year SIFO submissions on these days, as shown below, were almost always larger than the published SIFO. JP Morgan's conduct in providing SIFO submissions was inconsistent with its conduct in representing false spread estimates to the COMEX representative.

Date	SIZ14 - SIZ12 (US cents)	Implied SIZ14 - SIZ12 (US cents)	Published SIFO	SIFO submitted by JPM	SIFO implied by Futures Spread
February 3, 2011	-8.30	0.69	0.01%	0.05%	-0.14%
February 4, 2011	-7.30	-1.16	-0.02%	0.02%	-0.13%
February 7, 2011	-9.80	-1.41	-0.02%	0.02%	-0.17%
February 8, 2011	-11.50	-0.15	0.00%	0.03%	-0.19%
February 9, 2011	-12.50	-1.36	-0.02%	0.03%	-0.21%
February 10, 2011	-12.00	-2.89	-0.05%	0%	-0.20%
February 11, 2011	-9.30	-2.90	-0.05%	0%	-0.16%
February 14, 2011	-10.30	-2.44	-0.04%	0%	-0.17%
February 15, 2011	-16.50	-3.31	-0.05%	0.02%	-0.27%
February 17, 2011	-30.00	-8.79	-0.14%	-0.05%	-0.48%
February 18, 2011	-37.50	-23.56	-0.37%	-0.09%	-0.59%
February 22, 2011	-50.00	-37.63	-0.58%	-0.60%	-0.77%
February 23, 2011	-55.30	-27.92	-0.43%	-0.35%	-0.84%
February 24, 2011	-53.70	-30.23	-0.46%	-0.35%	-0.82%

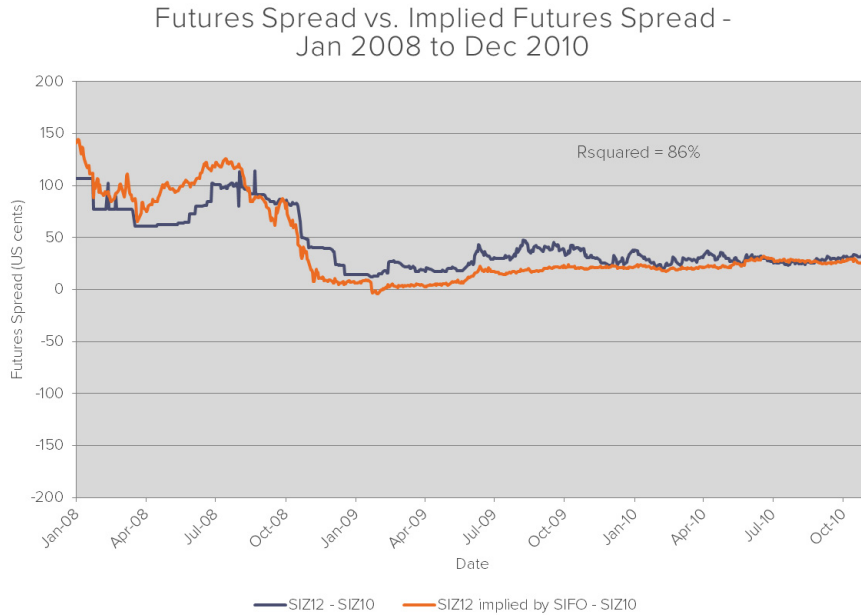
104. The graph below also demonstrates the discrepancies between the observed silver futures spread and the implied silver futures spread on these 14 days.



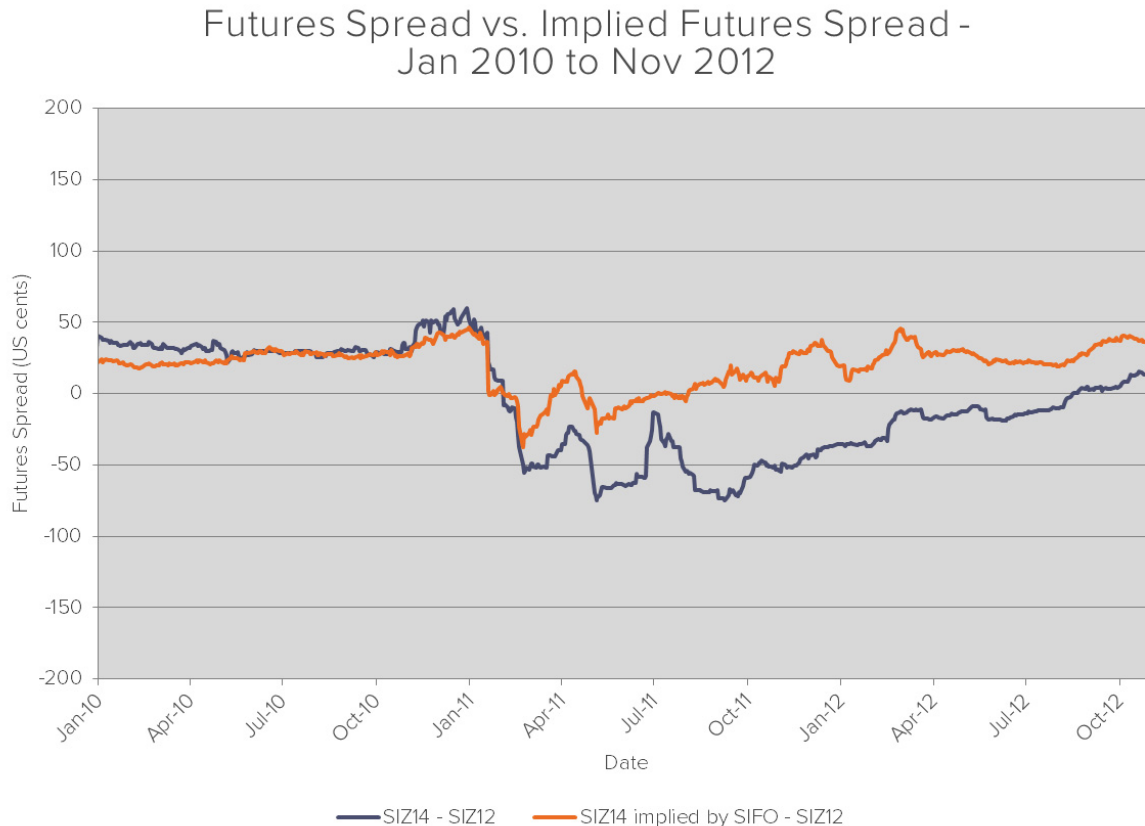
105. The table and graph both show that JP Morgan with one hand was making bids offers, trades, and arguments to support a highly backwardated silver market, and with the other was making SIFO submissions that, if true, would render those activities irrational if not for anticompetitive intent. That JP Morgan's COMEX futures activity was uneconomic in light of its putatively good faith SIFO submissions, is supported by the fact December 12 - December 14 silver spreads historically tracked SIFO both before and after the period of JP Morgan's squeeze.

106. For at least a week and half leading up to Plaintiffs' forced exit from the market, JP Morgan engaged in similar behavior.

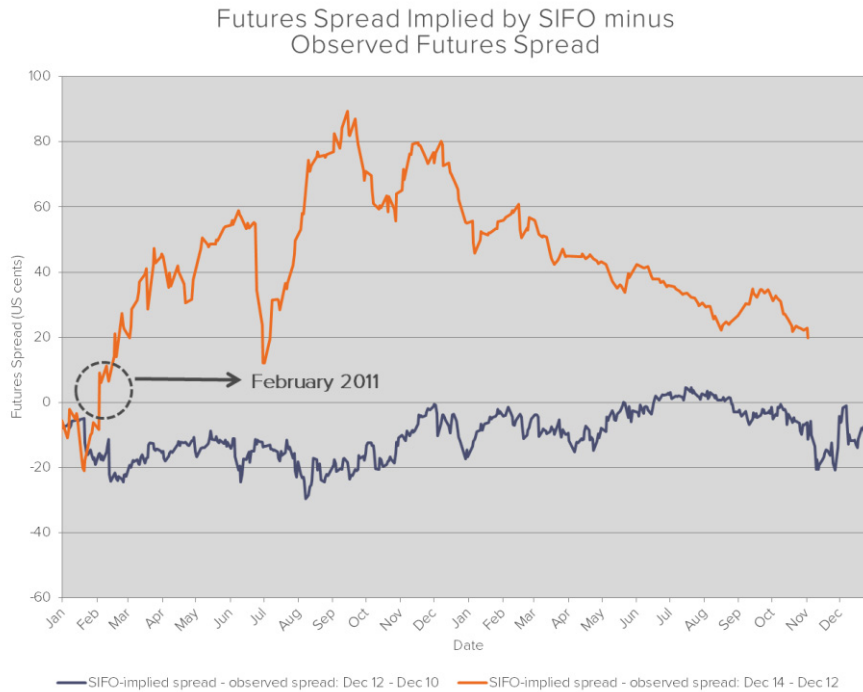
107. As described previously, and in the restated graph below, SIFO historically had been an excellent indicator of the deferred futures spreads.



108. As shown in the graph below, the difference between the actual futures spread and the SIFO-implied futures spread increased significantly at the beginning of 2011. Specifically, the observed futures spread implies much larger backwardation in the silver market than what is implied by assuming an annualized forward borrowing/lending rate equal to 1-year SIFO. Notably, by November 2012 the relationship between SIFO and the futures spreads was returning to its historical norm.



109. The next graph below also illustrates (in the orange line for the period January 2011 to December 2012) that SIFO and silver spreads diverged only as JP Morgan is alleged to have begun its manipulation, in early 2011, increasing to its maximum in October 2011 and then slowly returning to a close correlation by the time the 2012 leg of the spread expires. That the timing of the divergence closely tracks the timing of the alleged manipulations suggests that trades, bids and offers made consistent with the divergence were uneconomic. This graph also provides the contrast with a tenor not alleged to be subject to manipulation, December 10 – December 12 (during the period January 2008 to December 2010). Whereas SIFO and silver calendar spreads diverge in the manipulated tenor, the same is not true for December 10 – December 12. This also supports the economic irrationality of JP Morgan’s trades, bids and offers in favor of a divergence between SIFO and silver calendar spreads.



110. The profitability of JP Morgan's trades, bids and offers in favor of a SIFO/calendar spread divergence was dependent upon their anticompetitive effect. Had the market not been squeezed, Plaintiffs would have been able to hold and roll their spread positions through the expiration of later futures contracts. At that point, as illustrated in the chart at paragraph 107, the spread had moved from high backwardation to its historical norm of contango. Moving to contango favors the party shorting the spread, here Plaintiffs, and causes the long party, JP Morgan, to sustain a loss.

111. JP Morgan, a sophisticated trading entity can be credited with the knowledge that the historical norms of silver calendar spreads are a state of contango and convergence with SIFO. The most plausible explanation for JP Morgan to enter positions opposing those principles must have been an intent to exit them through extra-competitive means, *i.e.*, forcing counterparties to capitulate through predatory bidding and manipulation of COMEX settlement procedures.

112. The uneconomic and exclusionary conduct had great effect. Plaintiffs had taken a short silver spread position, thousands of contracts in size. The short part of the spread was primarily focused on the March 2011 and December 2011 silver futures contracts. The long part of the spread was focused on December 2012 and December 2013 silver futures contracts. As JP Morgan tightened its squeeze - through its late-in-the-day bids and its dishonest and knowingly inaccurate representations to the settlement committee - to tighten the silver spreads it simultaneously would not provide enough liquidity to allow Plaintiffs to exit their positions, greatly impairing their opportunities.

113. This conduct was directly aimed at securing JP Morgan additional monopolistic power and it was successful. As Plaintiffs (and other market participants, now plaintiffs in related cases) were forced out of the market, JP Morgan became even more unfettered as its control of the market increased and it became easier for JP Morgan to manipulate the spread. This is seen in the increased discrepancy between the spread and the implied spread over time beginning in February 2011, shown in the graph above.

114. The mechanics of how JP Morgan willfully acquired monopoly power in the market for deferred silver futures spreads can be described in the following way. First, the sudden divergence between SIFO and deferred futures spreads in early 2011, after a long period of little or no discrepancy between the two, points to the existence of an anomaly in the market. Second, due to the lack of observability and/or liquidity in instruments with the same settlement dates and mechanics as the deferred futures spreads, it is not possible for market users to arbitrage any perceived mispricing in these futures spreads. Third, the deferred futures spread market is effectively a market on its own, lacking any real interchangeability with other markets. And fourth, as a result of the lack of availability of interchangeable products, JP Morgan was

able to squeeze Plaintiffs (and anyone else with opposing positions) out of the market by keeping the market in an artificial state of backwardation, thereby allowing JP Morgan to expand its market share.

3. JP Morgan's Involvement in the Exclusion and Liquidation of Plaintiffs and Others

115. All holders of positions of futures contracts, including manipulators, must exit the market at some point. By mid-January 2011, Plaintiffs were under significant duress. During this time COMEX had begun increasing margin requirements (the amount of money that needed to be deposited with the clearinghouse to ensure performance on the contract). Between the months of November 2010 and February 2011, the CME raised silver future margin requirements four times – 60% in less than three months.

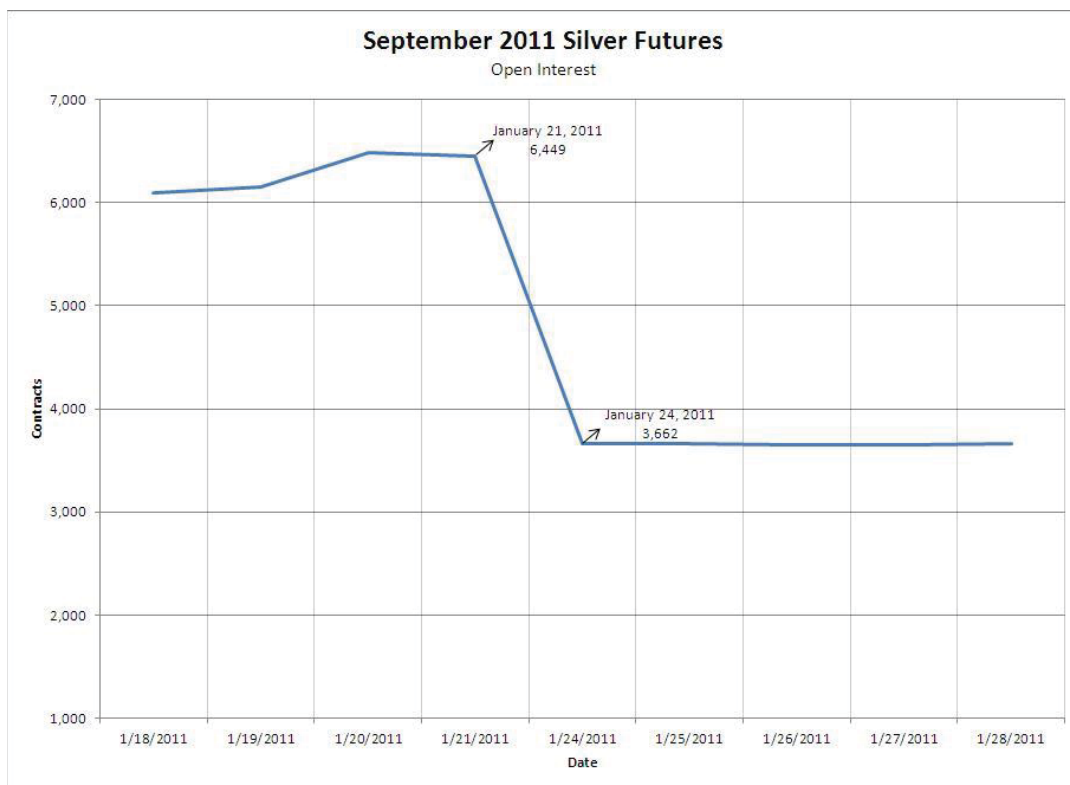
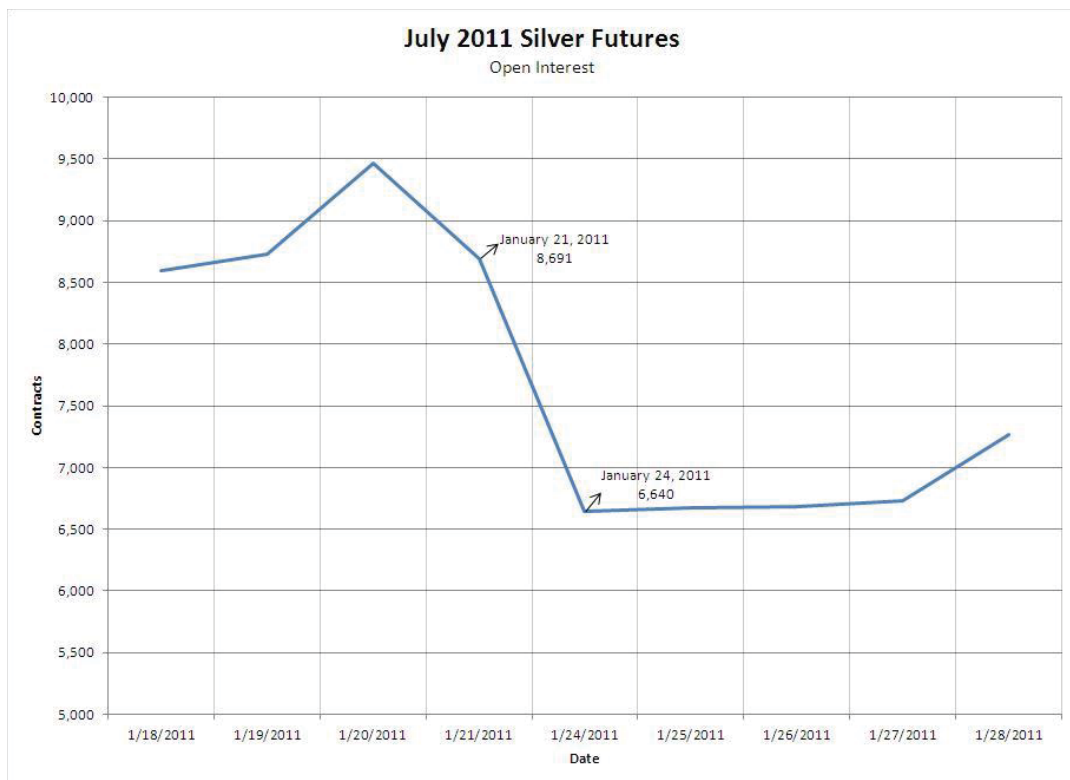
116. These increased margin requirements on top of the artificial movements in the silver futures spreads against their positions caused Plaintiffs to receive large margin calls. By the week of January 18, 2011, officials at the CME had begun to pressure Plaintiffs to reduce their positions out of concern for the overall stability of the market. Plaintiffs' spread positions were so large that a forced liquidation would have seriously disrupted the market. (Inexplicably, the CME seemed less concerned that a massive squeeze was unfolding.) By the end of that week, Plaintiffs' FCM interceded to sue for peace on Plaintiffs' behalf.

117. The FCM's owner, Martin Greenberg, personally contacted JP Morgan's head of global commodities, Blythe Masters, and asked for his client, Plaintiffs, to be released from the squeeze. He said to her, in words or substance, "your trader [Robert Gottlieb] is running my guy [Daniel Shak] in." Masters and Greenberg discussed the terms of surrender. Ultimately JP Morgan agreed to take Plaintiffs' gold spread positions and some of their silver spreads – effective Monday, January 24, 2011. For this largesse, JP Morgan demanded that Plaintiffs pay

\$2.1 million.

118. A hedge fund, Wolverine Asset Management LLC (“Wolverine”), took majority of the short silver spread positions, effective Monday, January 24, 2011. Wolverine had significant links to JP Morgan. It used JP Morgan (and its affiliates) as a prime broker and a custodian. Plaintiffs were forced to pay Wolverine \$4.8 million.

119. JP Morgan had an incentive not to take all of Plaintiffs’ spread positions. This is because they had taken the opposite position to Plaintiffs. If JP Morgan had taken Plaintiffs’ (extremely large) spread positions, open interest in those contracts would have decreased by the same amount on January 24, 2011 – the date of the transfer. This decrease would have demonstrated that JP Morgan was behind the artificial market moves. That JP Morgan was on the other side of Plaintiffs’ short spread positions is corroborated by what happened to open interest for many of the positions that JP Morgan actually did take over. For these contracts, open interest declined by nearly the exact number of contracts actually transferred. Specifically, for the July 2011 and September 2011, Plaintiffs’ forced exit from the market closely tracked with a reduction in open interest. That is, on January 24, 2011, Plaintiffs exited the July 2011 silver futures by selling to JP Morgan 1,735 contracts. That day, open interest decreased by 2,051 contracts – a percentage decline of about 24%. For September 2011 futures, Plaintiffs sold 2,646 contracts to JP Morgan to exit their position. Open interest on January 24, 2011 for that contract decreased by 2,787 contracts – a percentage decline of about 43%. This demonstrates that JP Morgan was on the opposite side of Plaintiffs’ trades in those contracts, and shows how plausible it is that JP Morgan was also on the other side of the spreads that Wolverine took over.



120. JP Morgan was thus well aware that Plaintiffs had been forced out of the market.

With Plaintiffs absent in early February 2011, JP Morgan's market power in the calendar spreads increased along with the artificiality in these prices. JP Morgan's ability to manipulate the market became unfettered and thereafter the manipulation swallowed up other smaller traders.

4. Plaintiffs' Trades and Injury

121. Plaintiffs' liquidation resulted in immediate damages to Plaintiffs of approximately \$25 million. The position consisted of essentially two bear spreads. The first was a short March 2011 silver futures position (of about 11,500 contracts) against long positions in July and September 2011 silver futures. The second was a short December 2011 silver futures position (of about 5,200 contracts) against long positions in December 2012 silver futures (approximately 3,300 contracts) and December 2013 silver futures (of about 4,600 contracts). These positions are presented in tabular form below.

122. The liquidation forced the closing of the hedge fund – SHK Diversified LLC – amid large losses to investors. Plaintiffs had generated large profits doing silver spread trading prior to this squeeze. This loss deprived Plaintiffs of capital and significant business growth potential.

123. Plaintiffs' trading strategy was sound. Although JP Morgan's manipulation of the spreads continued at various times until Robert Gottlieb left JP Morgan in 2014, the long-dated spreads at issue in this case lost much of their artificiality into 2012. If Plaintiffs had been able to hold their position through JP Morgan's spread manipulation, they would have made profits in multiples of the amount of loss suffered, with an estimate of no less than \$100 million.

124. Below is a breakdown of salient parts of Plaintiffs' trading during the relevant time period.

125. Plaintiffs' March, May, July and September 2011 silver futures positions, as of

the last date of the month, are as follows:

As of	March 2011 Silver Futures	May 2011 Silver Futures	July 2011 Silver Futures	September 2011 Silver Futures
December 31, 2010	(11,522)	(514)	4,311	3,678
January 31, 2011	0	0	0	0

126. Plaintiffs' December silver futures positions, as of the last date of the month, are as follows:

As of	December 2011 Silver Futures	December 2012 Silver Futures	December 2013 Silver Futures	December 2014 Silver Futures
December 31, 2010	(5,242)	3,292	4,652	30
January 31, 2011	0	0	0	0

127. Plaintiffs' January 24, 2011 trades liquidating their March 2011 positions, causing a part of their injury, are provided below:

Date	Plaintiffs' Total Trades	Open Interest	Open Interest Movement	% of Open Interest	Volume	% of Total/ Volume
1/24/2011	9,606	70,067	Decreased 203	.2889%	58,437	16.44%

128. Plaintiffs' January 24, 2011 trades liquidating their May 2011 positions, causing a part of their injury, are provided below:

Date	Plaintiffs' Total Trades	Open Interest	Open Interest Movement	% of Open Interest	Volume	% of Total/ Volume
1/24/2011	(133)	19,918	Increased 137	.6926%	5,169	2.57%

129. Plaintiffs' January 24, 2011 trades liquidating their July 2011 positions, causing a part of their injury, are provided below:

Date	Plaintiffs' Total	Open Interest	Open Interest Movement	% of Open Interest	Volume	% of Total/
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	Trades					Volume
1/24/2011	(1,704)	6,640	Decreased 2,051	23.5991%	2,835	60.11%

130. Plaintiffs' January 24, 2011 trades liquidating their September 2011 positions, causing a part of their injury, are provided below:

Date	Plaintiffs' Total Trades	Open Interest	Open Interest Movement	% of Open Interest	Volume	% of Total/ Volume
1/24/2011	(3,421)	3,662	Decreased 2,787	43.2160%	2,032	N/A

131. Plaintiffs' January 24, 2011 trades liquidating their December 2011 positions, causing a part of their injury, are provided below:

Date	Plaintiffs' Total Trades	Open Interest	Open Interest Movement	% of Open Interest	Volume	% of Total/ Volume
1/24/2011	4,484	11,669	Increased 118	1.0216%	1,587	N/A

132. Plaintiffs' January 24, 2011 trades liquidating their December 2012 positions, causing a part of their injury, are provided below:

Date	Plaintiffs' Total Trades	Open Interest	Open Interest Movement	% of Open Interest	Volume	% of Total/ Volume
1/24/2011	(4,666)	5,967	Decreased 57	.9462%	12	N/A

133. Plaintiffs' January 24, 2011 trades liquidating their December 2013 positions, causing a part of their injury, are provided below:

Date	Plaintiffs' Total Trades	Open Interest	Open Interest Movement	% of Open Interest	Volume	% of Total/ Volume
1/24/2011	(3,550)	3,808	Decreased 222	5.5087%	5	N/A

134. Plaintiffs' January 24, 2011 trades liquidating their December 2014 positions,

causing part of their injury, are provided below:

Date	Plaintiffs' Total Trades	Open Interest	Open Interest Movement	% of Open Interest	Volume	% of Total/ Volume
1/24/2011	202	2,368	No movement	0.0%	14	N/A

135. Regardless of the identity of the specific counterparty to the Plaintiffs' liquidation trades, Plaintiffs' damages were directly and solely caused by the actions of JP Morgan. Robert Gottlieb's manipulations of the COMEX settlements throughout the December 2010 and January 2011 period caused immediate losses which were incurred by virtue of each daily manipulated settlement. COMEX rules require the inflow and outflow of customer margin out of their accounts in accordance with settlements, not actual liquidations. Because of the daily mark-to-market rules pertaining to the margin calls on the COMEX, JP Morgan's settlement manipulations caused losses to Plaintiffs (and gains to JP Morgan) as the market moved against Plaintiffs' positions. Most importantly, no liquidation would have been necessary had it not been for the prior manipulations that left JP Morgan in sole control of the COMEX settlement process.

5. JP Morgan's Motives

136. In the ordinary course of their business, metals trading desks at investment banks engage in hedging transactions with silver producers. Metal is purchased from the producer with delivery (and payment) made at pre-determined dates in the future. Most commonly, the forward purchase price is determined by reference to a benchmark that is specified in a contract between the parties. The COMEX settlement price is a frequently used benchmark for such transactions.

137. Plaintiff Grumet in the related action is aware of this COMEX benchmark price-referencing procedure because he was actually first hired in 1986 as an in-house attorney at Drexel Lambert Trading Corporation ("DBL"). His job was primarily to draft hedging contracts

between DBL and its metal mining customers. He drafted many agreements where the COMEX settlement price was the price which was used in determining the forward purchase price from a mining concern. Concern about manipulation of COMEX settlements was non-existent at that time. There were too many commercial interests and investment banks with a stake in the settlement of the COMEX spreads for any one bank to be able to skew settlements in an artificial manner. DBL and its customers were comfortable that the COMEX settlement price was a fair one, and more specifically, that it accurately reflected the forward interest rate environment for the underlying commodity. These types of contracts remained common into 2011.

138. As alleged above, by 2011, manipulations of silver spread settlements had become possible since most of the investment banking community either closed or scaled down their metals trading desks. Once Plaintiffs exited the market in January 2011, there was no counterweight to JP Morgan's ability to skew the COMEX settlement price.

139. On or about February 5, 2011, Plaintiff Grumet in the related action was informed by his broker, Kevin Kline, that Kline had heard from several of the other floor brokers that Gottlieb was "back to backing" the settlement price with a customer of JP Morgan. In trader-lingo, this meant that Gottlieb was passing along the COMEX settlement price to his customer. This would certainly have been one of his primary motivations for depressing the December 2014 silver settlement price. The price that JP Morgan was paying a silver mining producer who had agreed to deliver silver to JP Morgan in calendar year 2014 would be an artificially depressed one because it was based on an artificially low December 2014 price that was set in February of 2011. This artificiality was caused by the manipulation of the deferred spreads. Such a hedging transaction would be highly profitable when based on artificially depressed prices that JP Morgan was paying its customer.

140. Thus, one of JP Morgan's primary possible motives for manipulating the spreads to artificial levels was to benefit itself in the context of physical transactions with producers, which were based on COMEX silver futures price settlements. This motive shows why manipulating the settlement would be of such import to JP Morgan. If there were a genuine interest in hedging a forward transaction during the earlier trading hours, JP Morgan would have traded those spreads between 8:25 a.m. and 1:15 p.m. and it would have used those trades as a basis for a settlement (and rightly so). Instead JP Morgan would have desired to pressure the spreads on the close in order to justify an artificial settlement so that they could pass along the resulting artificial settlement price to its customers who had already contractually sold silver forward to JPMorgan based on this price. For this reason, GLOBEX was not the main venue for JPMorgan to conduct its manipulation. JP Morgan's manipulation was conducted prior, during, and just subsequent to the floor close because its clients likely priced their silver on those settlement prices.

141. Another JP Morgan motive was the traders (especially Robert Gottlieb's) desire to improve their "marked-to-market" profit and loss positions. JP Morgan's consistent activity to have the spreads settle in a more backwardated direction exposed its silver book position. Even on days when JP Morgan might not have been engaging in customer transactions, it still would generate profit by skewing the spreads in a backwardated fashion. This is because transactions on the commodities exchange are market to market on a daily basis. Cash flows into and out of the account of any holder of a futures contract on a daily basis regardless of whether those contracts have been liquidated or not.

142. Indeed, brokers on the floor noticed an increase in the aggressiveness of JP Morgan's manipulative, last minute trades on Wednesdays and Thursdays and surmised that

Robert Gottlieb had his position evaluated on certain Fridays and thus desired to skew the close in a certain way leading up to the evaluation. COMEX floor brokers dubbed these manipulated days “wacky Wednesdays” and “aggressive Thursdays.”

143. Additionally, JP Morgan knowingly manipulated the spreads in order to impair and exclude competitors, like Plaintiffs. This smothering of the competition secured JP Morgan’s power in the market and, in turn, allowed its manipulation to grow and continue. This improper exclusion was not a result of efficiency, but instead a result of JP Morgan wielding its power with the aim of gaining even more.

144. JP Morgan was also motivated to manipulate the silver futures market because it was possible – it was aware that there was no other significant counterbalance to its presence in the market. In this environment, it could therefore manipulate the market to extract profits from its customers with the concomitant benefit of making money on the manipulation at the expense of other traders.

145. That JP Morgan was motivated by monopolistic intent is evidenced by the fact that had Plaintiffs Shak, Grumet, and Wacker not been forced out of the market, they could have held their spread positions in opposition to JP Morgan through to expiration. At this point they would have made millions in gains at the expense of JP Morgan. The tables below illustrate what would have happened to some of the primary spread positions that Plaintiffs and plaintiffs in related cases held at the time they were forced to liquidate. The first table below shows how the December 12 – December 14 spreads held by Grumet and Wacker became profitable as they moved from backwardation, at the time they were forced to capitulate by the manipulation, to their natural state of contango at expiry.

Plaintiff	Trade date	No. of contracts	SIZ14 - SIZ12 trade date value	SIZ14 - SIZ12 pre-expiry value	Profit/loss
Wacker	25-Jan-11	164	\$90,200	\$206,640	\$116,440
Wacker	03-Feb-11	251	-\$104,165	\$316,260	\$420,425
Wacker	07-Feb-11	215	-\$105,350	\$270,900	\$376,250
Grumet	17-Feb-11	315	-\$472,500	\$396,900	\$869,400

146. The table below shows the same outcome assuming (in a somewhat stylized way) that related plaintiffs Wacker and Grumet exited their positions through the December 13 and December 14 spreads, rather than the December 12 – December 14 spread.

Plaintiff	Trade date	No. of contracts	SIZ14 - SIZ13 trade date value	SIZ14 - SIZ13 pre-expiry value	Profit/loss
Wacker	25-Jan-11	164	\$45,100	\$150,880	\$105,780
Wacker	03-Feb-11	251	-\$22,590	\$230,920	\$253,510
Wacker	07-Feb-11	215	-\$35,475	\$197,800	\$233,275
Grumet	17-Feb-11	315	-\$244,125	\$289,800	\$533,925

147. As shown above, related plaintiffs Wacker and Grumet would have made a combined profit of nearly \$3 million if they had been allowed to hold their positions through expiration. JP Morgan was the counterparty to these spreads (*see* ¶¶ 71-72). Assuming JP Morgan did not exit its trades, it would have lost nearly \$3 million if Wacker and Grumet had not been forced to exit the market.

148. In a similar vein, certain of Plaintiffs' positions would have been profitable if held beyond the manipulation. For example, Plaintiffs' December 11 – December 13 spreads expired in November 2011, at the expiration of the December 11 leg of the spread, when JP Morgan was continuing to artificially keep the spreads in backwardation. However, if Plaintiffs had not been forced out of the spread market by JP Morgan, Plaintiffs would likely have rolled the December 11 – December 13 spreads into longer dated tenors by the time of expiry, such as the December 12 – December 13 or the December 12 – December 14. These spreads would have persisted past

the period of JP Morgan's manipulation, and rose in value as they returned from an unnatural state of backwardation to its historical norm of contango. The tables in the following paragraphs illustrate for a few of Plaintiffs' positions how much Plaintiffs' stood to profit if not forced out of the market before the market returned to normal. Assuming JP Morgan held the opposite side of the spreads, as was likely, Plaintiffs' profits would have meant millions in losses for JP Morgan, if Shak were allowed to continue to operate in the spread market.

149. The tables below set forth the profit or loss that Plaintiffs' could have incurred on his Dec 11 – Dec 13 spreads had Plaintiffs continued in the market under two potential scenarios. These two scenarios involve Plaintiffs' rolling their position forward into longer dated spreads until a time when JP Morgan's manipulation had dissipated:

- If Plaintiffs rolled the short SIZ11 position to a short SIZ12 position just before the expiry of SIZ11 and hold the resulting SIZ13 – SIZ12 spread position until just before the expiry of SIZ12;⁶
- If Plaintiff rolled the short SIZ11 position to a short SIZ12 position and rolled the long SIZ13 position to a long SIZ14 position just before the expiry of SIZ11 and hold the resulting SIZ14 – SIZ12 spread position until just before the expiry of SIZ12⁵.

Total profit/loss = Pre-expiry value – trade date value +/- profit/loss from rolling (if applicable)

Trade date	No. of contracts	SIZ13 - SIZ11 trade date value	Profit/loss from rolling SIZ11 to SIZ12	SIZ13 - SIZ12 pre-expiry value	Total profit/loss
24-Jan-11	3,550	\$3,141,750	\$3,638,750	\$4,402,000	\$4,899,000

⁶ The pre-expiry value of the SIZ14 – SIZ12 futures spread is determined on the final trading day in November 2012.

Source: LBMA, Bloomberg, Reuters, Plaintiffs' consulting expert's calculations

Trade date	No. of contracts	SIZ13 - SIZ11 trade date value	Profit/loss from rolling SIZ11 to SIZ12	Profit/loss from rolling SIZ13 to SIZ14	SIZ14 - SIZ12 pre-expiry value	Total profit/loss
24-Jan-11	3,550	\$3,141,750	\$3,638,750	\$3,993,750	\$4,473,000	\$8,963,750

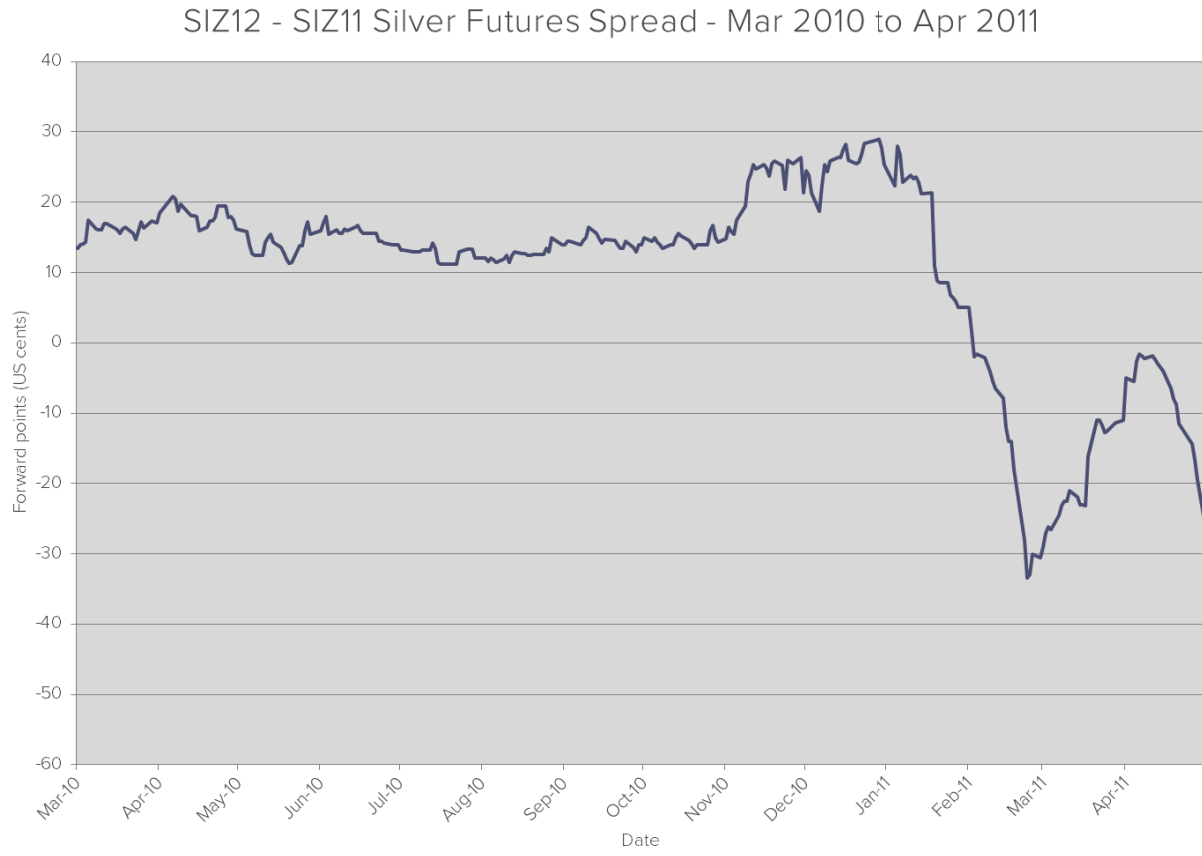
Source: LBMA, Bloomberg, Reuters, Plaintiffs' consulting expert's calculations

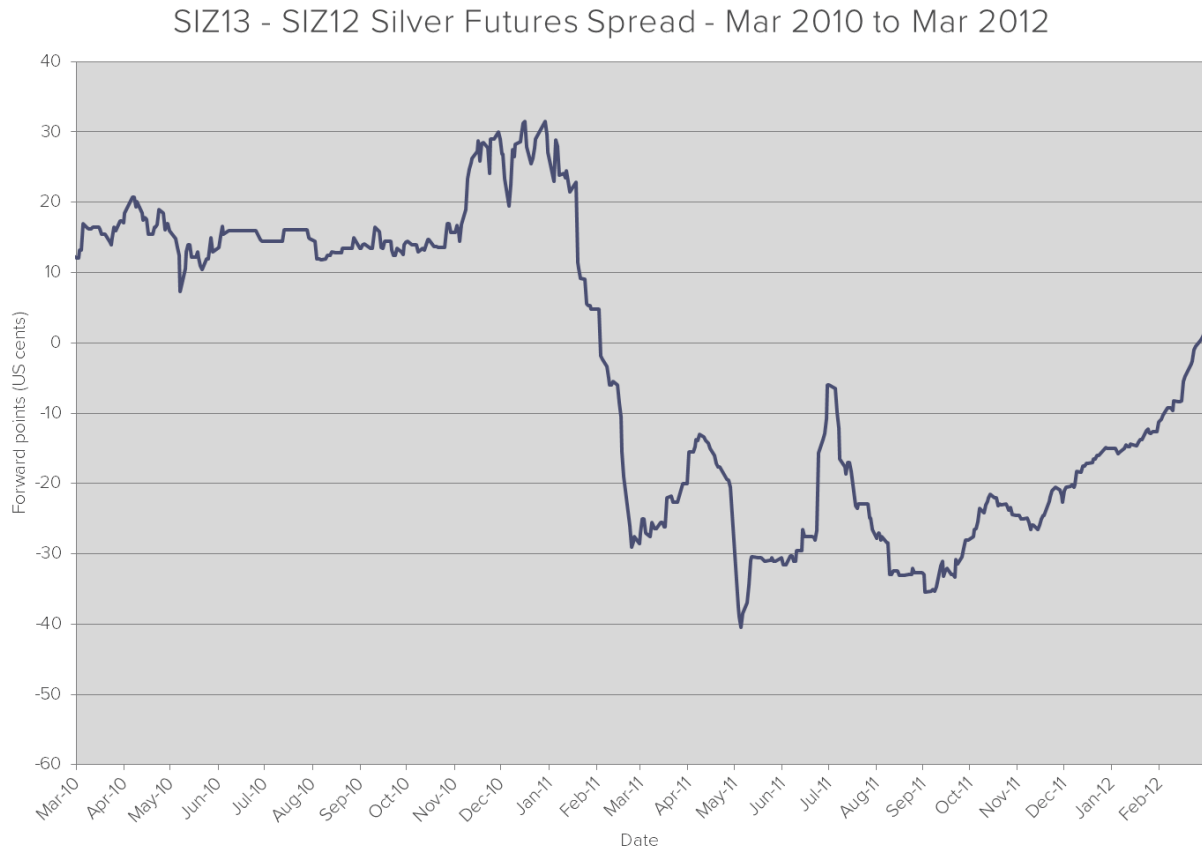
150. The profits attributable to Plaintiffs' ability to continue in the market until it returned to contango would accrue as losses to the counterparty of the trade, as alleged herein, JP Morgan. This would provide JP Morgan motive to force Plaintiffs and the other related plaintiffs out of the market at noncompetitive prices before the market could return to normal.

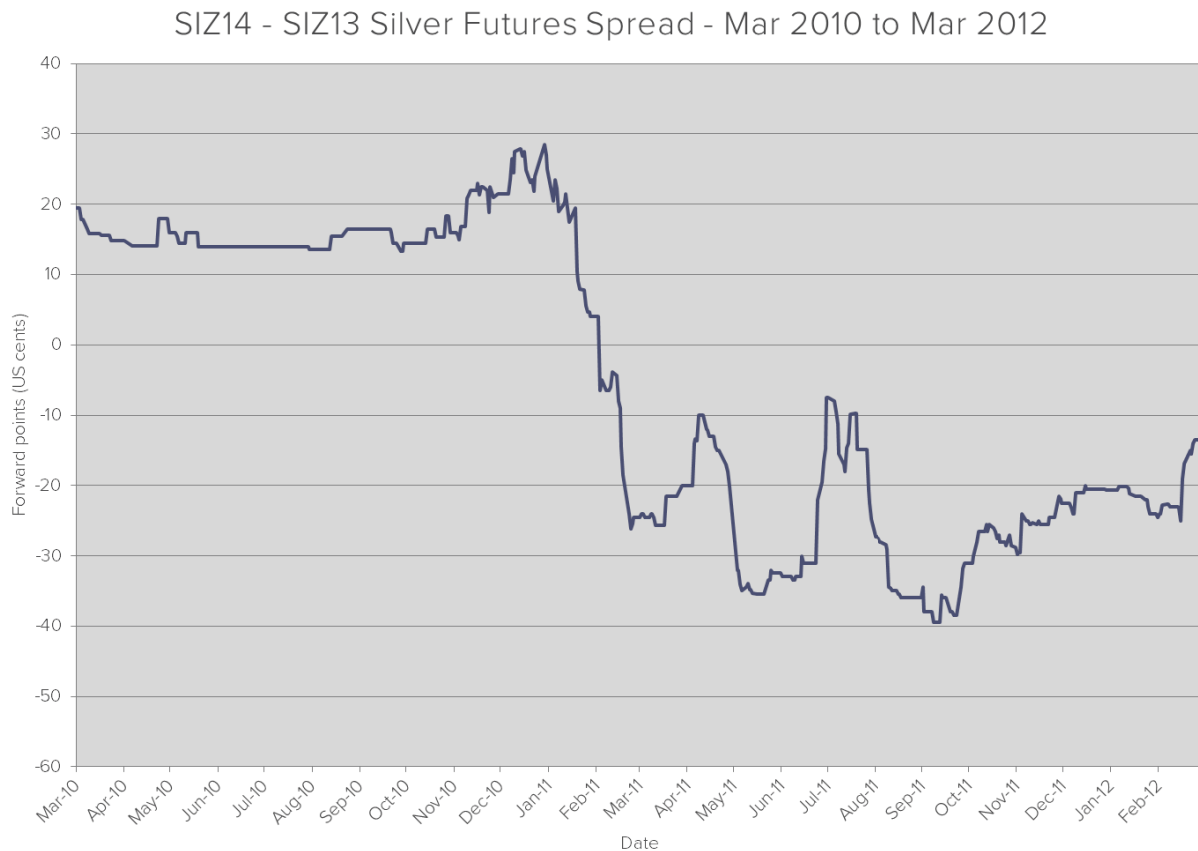
G. Silver Futures Calendar Spreads From January 2011 Until May 2011 Were Artificially Tight

1. Anecdotal Evidence of the Consequences of JP Morgan's Exclusionary Conduct

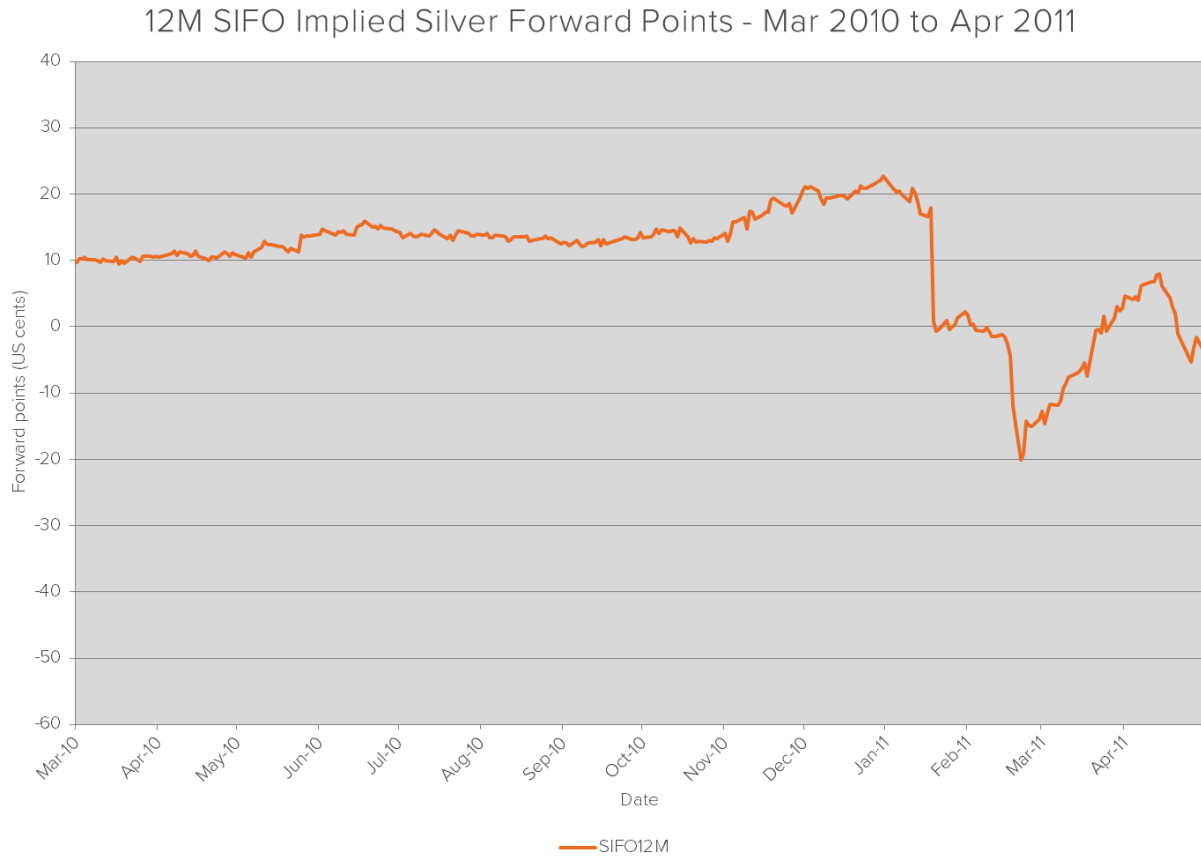
151. The silver futures market moved into an unprecedented state between January and May 2011. Specifically, the silver spreads began experiencing extended periods of backwardation, something which had occurred only on extremely rare occasions. Below are graphs of certain relevant silver futures spreads:







152. This highly anomalous situation did not hold similarly in the cash market. Below are graphs of cash market prices – SIFO spreads.



153. A few prominent examples of discrepancies between the cash market and silver futures are described below.

154. During the first two weeks of April 2011, the one year OTC forward rate was trading in a consistent contango. However, never once during that time period did JP Morgan allow those spreads to ever settle in a contango. They were manipulated on the close to settle at artificial prices ranging from roughly a 3 to 15 cent backwardation. This disconnect is evidence of artificiality in the silver spreads. Even JP Morgan, on or around this time, stated on its published page for indicative silver forward that the one-year rate was in a contango.

155. Even when the SIFO market was in contango, it diverged from the manipulated silver futures spreads by significant amounts. One of those days was February 20, 2011. On that date the OTC market (SIFO) was 0.60% backwardated. The price of silver on that February

20, 2011 however would have dictated a one year settlement in the December 11 – December 12 spread of roughly 20 cents. Instead, the spread settled at a 33 cent backwardation, 65% greater than the OTC implied rate (SIFO).

156. Another backwardated forward rate (SIFO) of 0.40% was recorded in early May. This 0.40% backwardation should have dictated a settlement in the December 11 – December 12 spread of 12 cents on this date. Instead, it was manipulated into a settlement of 35 cents, 300% greater than the OTC implied rate (SIFO).

157. This anecdotal evidence is supported by the more rigorous work of the consulting expert, discussed more fully in the next paragraphs.

2. The Analysis of Plaintiffs' Consulting Expert

158. Plaintiffs' consulting expert performed the following evaluation to establish the artificiality of the silver futures spreads during the period January 2011 to May 2011.

159. The first analysis Plaintiffs' consulting expert performed was an analysis of the silver futures settlements using summary statistics and regression models. From the analysis presented below, Plaintiffs' consulting expert drew a number of conclusions:

- Silver futures spreads and forward points implied by corresponding silver forward rates ("SIFO") were close to each other prior to January 2011 and the correlations were statistically significant.
- A significant divergence between the two forward points happened during the period from January 2011 to May 2011 and the divergence is not explained by the forward points themselves as shown by test statistics.
- The divergence between silver futures spreads and forward points implied by the corresponding SIFO rates is potentially a sign of silver futures settlements being

manipulated throughout the period.

160. SIFO is calculated as the trimmed arithmetic mean of contributed values after removing the highest and the lowest submissions. SIFO rate is essentially an indicative rate of silver forward points in the format of percentage on silver spot price, *e.g.*, a 1% 1-year SIFO on a \$15 silver spot price will indicate a 1-year silver forward price of $\$15 \times (1 + 1\%) = \15.15 and a 1-year forward point of 15 cents.

161. For the purpose of simplicity, references to “SIFO” refer to the forward points implied by the published rates.

162. The silver futures spreads are calculated by taking the difference between these silver futures settlement prices (*e.g.*, SIZ12 – SIZ13 will be an example of 1-year futures spreads).

163. Consulting expert’s study focuses on the December contracts and “silver futures spreads” refers to SIZ12 – SIZ11, SIZ13 – SIZ12 and SIZ14 – SIZ13 unless otherwise specified.

164. The spreads between silver futures contracts on a specific day are essentially indicators of the *interest rate* term structures of silver prices on that day.

165. SIFO is reflective of the spot silver interest rate term structures (through silver swaps and forwards). It is based on a trimmed mean and six submissions. Since SIFO and silver futures spreads are composed of essentially the same economic outputs, if there is a divergence, it is evidence of anomalous market conditions, and that a market participant, here JP Morgan, was purchasing silver futures spreads at a cost higher than the value of those outputs as measured by the SIFO market.

166. In a strong, semi-strong or even weakly efficient market the silver futures spreads should be reflective of the corresponding SIFO rates. This is because any gap between these two

forward points should be filled by the market through arbitrage. Here, during the beginning of 2011, for reasons stated earlier arbitrage between the physical and futures markets was not readily possible.

167. A divergence between silver futures spreads and corresponding SIFO is potentially indicative of silver futures settlements being manipulated by a dominant player in the market unless one can prove that there is a dramatic fundamental structural change in the silver market.

a. Summary Statistics

168. Plaintiffs' consulting expert analyzed the differences in the key summary statistics of silver futures spreads and the corresponding SIFO.

169. The silver futures spreads are calculated from the settlement prices of the December silver futures contracts from 2011 to 2014 (SIZ11, SIZ12, SIZ13 and SIZ14).

170. Specifically, Plaintiffs' consulting expert compared the 12-month SIFO with three silver futures spreads: SIZ12 – SIZ11, SIZ13 – SIZ12 and SIZ14 – SIZ13.

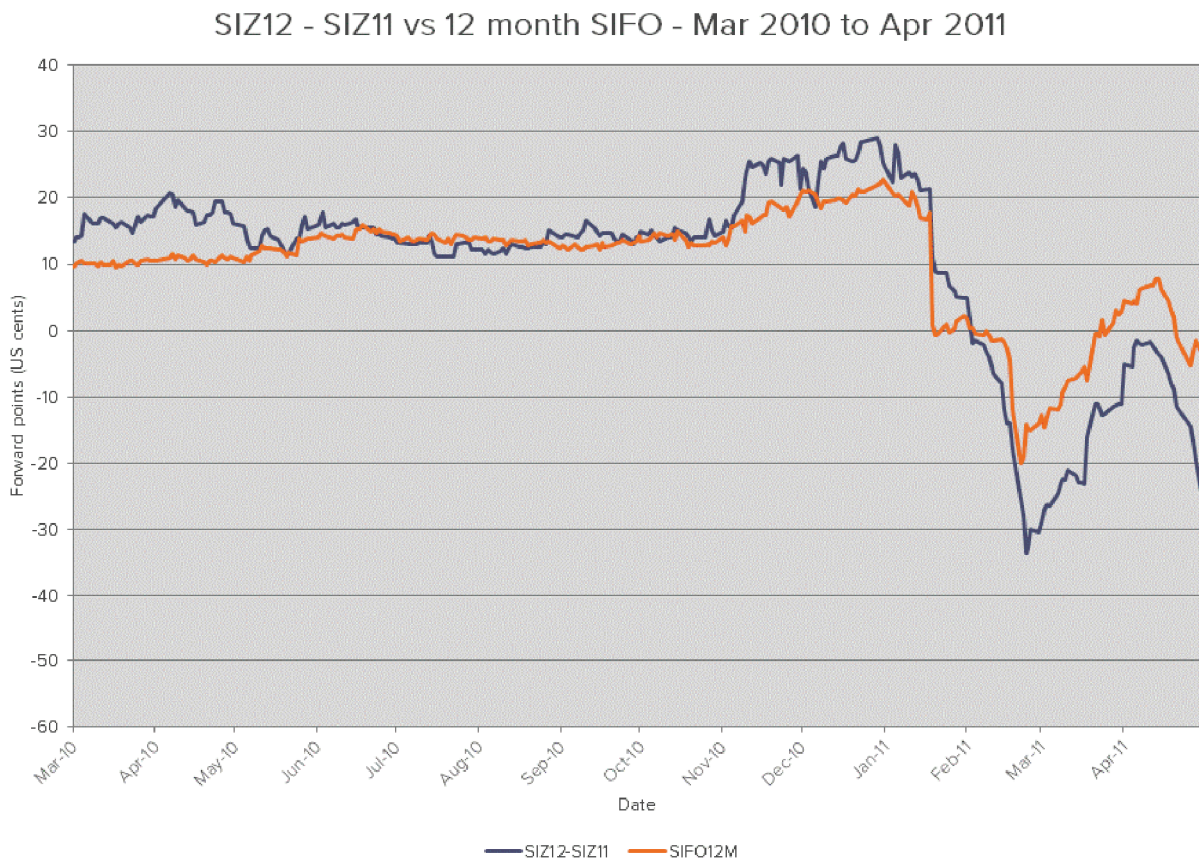
171. The following three graphs plot the 12-month SIFO with the aforementioned silver futures spreads. As shown in the graphs, 1 year SIFO and 1 year futures spreads were close to each other prior to January 2011. The futures spreads diverged from the level indicated by the corresponding SIFO from the beginning of 2011. This difference is consistent with the silver futures settlement being manipulated.

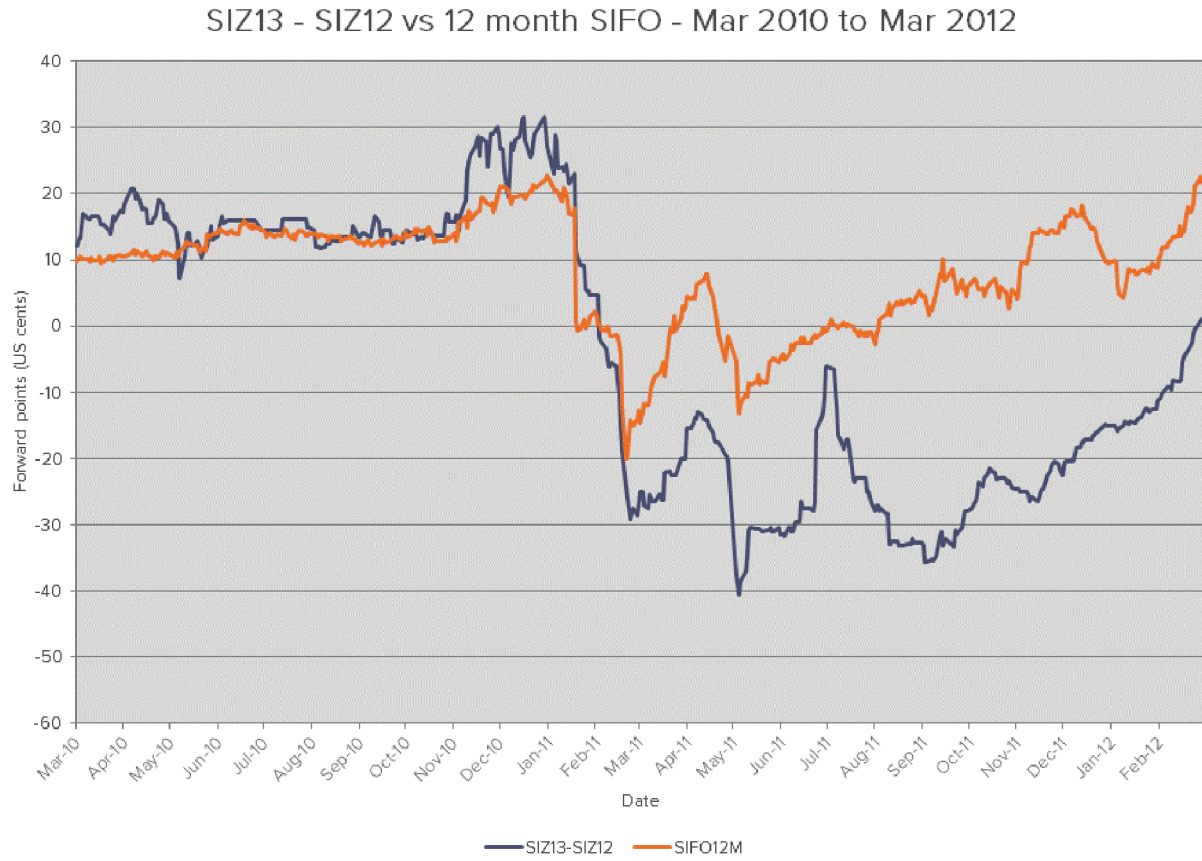
172. Although silver futures are settled at a somewhat different time than when SIFO is fixed, the sharp and then consistent divergence between the SIFO and silver spreads during the period from January 2011 to May 2011 is aberrant as judged from prior market behavior.

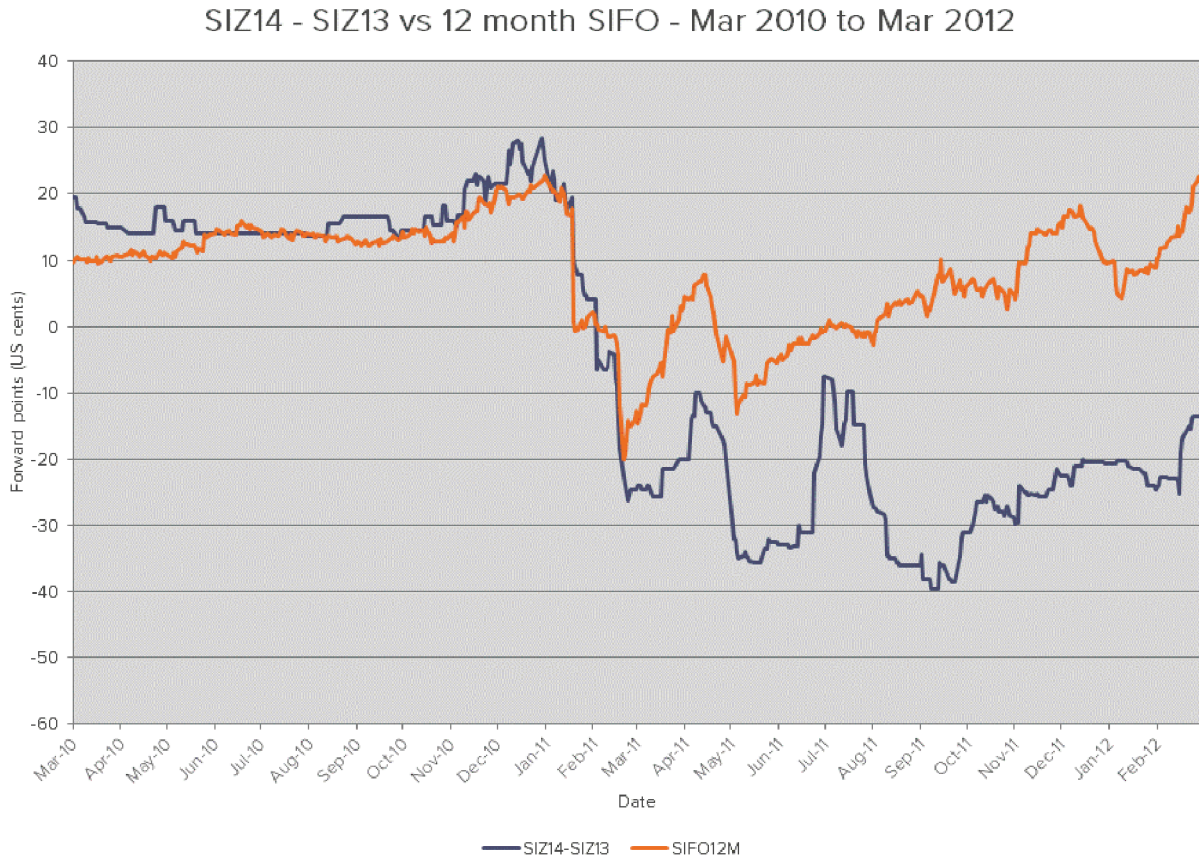
173. Given that the behavior of SIFO and silver futures spreads started to converge

again to each other after May 2011, it is highly unlikely that the divergence was caused by any fundamental structural change in the market that could have permanently altered the behavior of the two.

174. It is worth mentioning that the time periods the consulting expert chose in the analyses are based on the lengths of each dataset (*i.e.*, the overlap between SIFO and SIZ12 – SIZ11 is shorter than the overlap between SIFO and SIZ13 – SIZ12 and Plaintiffs’ consulting expert choose the time period that shows both of them). Thus, Plaintiffs’ consulting expert chose a time period that could reflect all silver futures spreads (SIZ12 – SIZ11, SIZ13 – SIZ12, SIZ14 – SIZ13) and SIFO for the purpose of comparison. Moreover, in order to make the analysis between January 2011 and May 2011 valid, Plaintiffs’ consulting expert also included enough data before and after the period.







The source of this information (and throughout this section) is Bloomberg, LBMA, and Plaintiffs' consulting expert's calculations.

175. To analyze further how silver futures spreads diverge from the corresponding SIFO, the consulting expert plotted the time series of the differences between the two and the corresponding rolling standard deviations of the differences in the following three graphs.

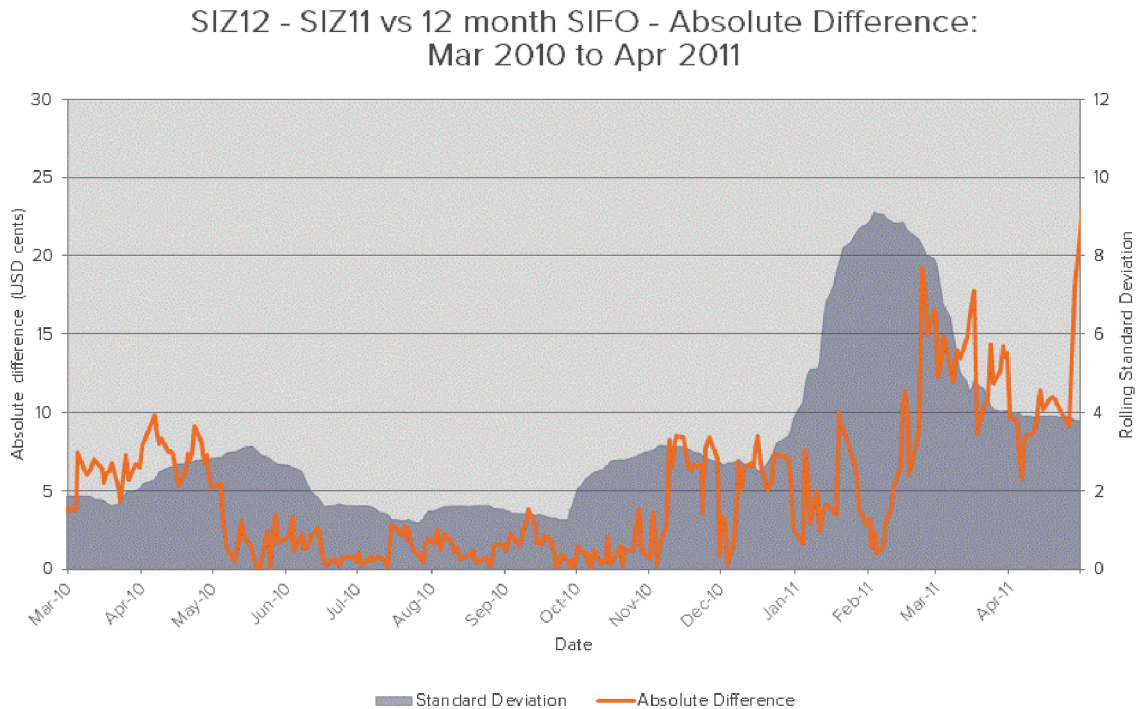
176. A high rolling standard deviation of the differences indicates that a large proportion of the silver futures spreads is not explained by the movement of the corresponding SIFO. This is potentially a sign of silver futures settlements being manipulated.

177. As shown in the following graphs, the absolute differences between silver futures spreads and the corresponding SIFO started to increase around the beginning of 2011 and the rolling standard deviations also started to spike up at the end of 2010.

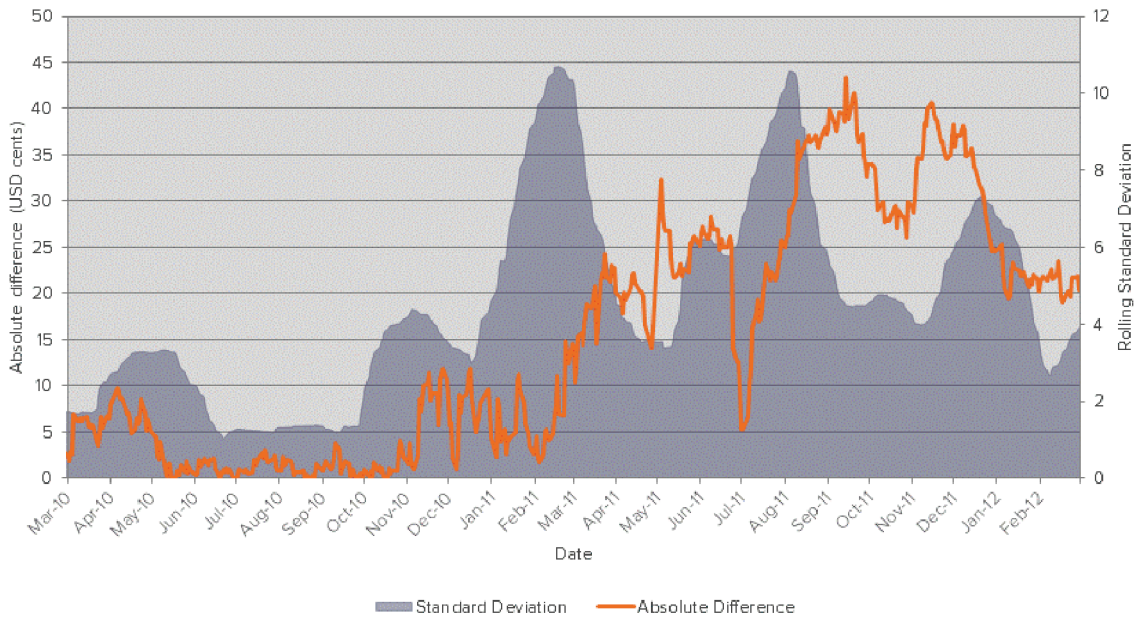
178. If this phenomenon were due to a fundamental structural change in the silver

market, one would expect that both of the absolute differences and the rolling standard deviations to stay at the new level instead of decreasing to original levels after May 2011.

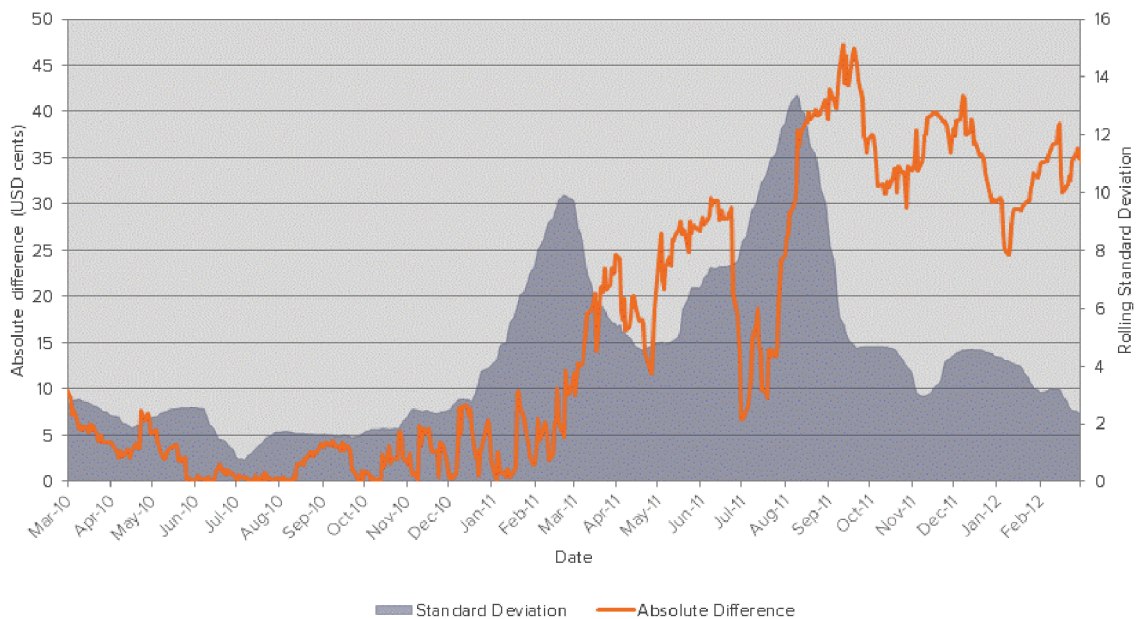
179. What is more, if this phenomenon were due to the arrival of new information, one would expect that both of the absolute differences and the rolling standard deviations to fully absorb this information immediately at the beginning of 2011.



SIZ13 - SIZ12 vs 12 month SIFO - Absolute Difference:
Mar 2010 to Mar 2012



SIZ14 - SIZ13 vs 12 month SIFO - Absolute Difference:
Mar 2010 to Mar 2012



180. As shown in the following table, silver futures spreads diverged from SIFO on a consistent basis from January 2011 to May 2011. The difference is on average 10 to 15 cents.

Time Series	Mar 10 - Dec 10		Jan 11 – May 11	
	Mean (US cents)	Std. Dev. (US cents)	Mean (US cents)	Std. Dev. (US cents)
SIFO – SIZ12 – SIZ11	-2.6	2.2	7.8	5.7
SIFO – SIZ13 – SIZ12	-3.0	2.5	13.2	6.7
SIFO – SIZ14 – SIZ13	-2.5	2.1	13.4	6.5

b. Regression Analysis

181. Plaintiffs’ consulting expert then tested whether the divergence between silver futures spreads and SIFO is statistically significant by using regression analysis.

182. Specifically, Plaintiffs’ consulting expert checked if the futures settlement spreads are reflective of the levels of SIFO on a specific day by running a rolling regression of forward points implied by SIFO on silver futures spreads using a rolling window of 6 months.

183. While running the rolling regression, Plaintiffs’ consulting expert tested:

- Whether the goodness of fit of the whole regression model (as shown by R squared) is consistent across time;
- Whether the coefficient on SIFO is big enough and significant; and
- Whether the coefficient on SIFO is close to one.

184. Plaintiffs’ consulting expert’s analysis shows that the R squared of the regression model decreased significantly for the period from January 2011 to May 2011.

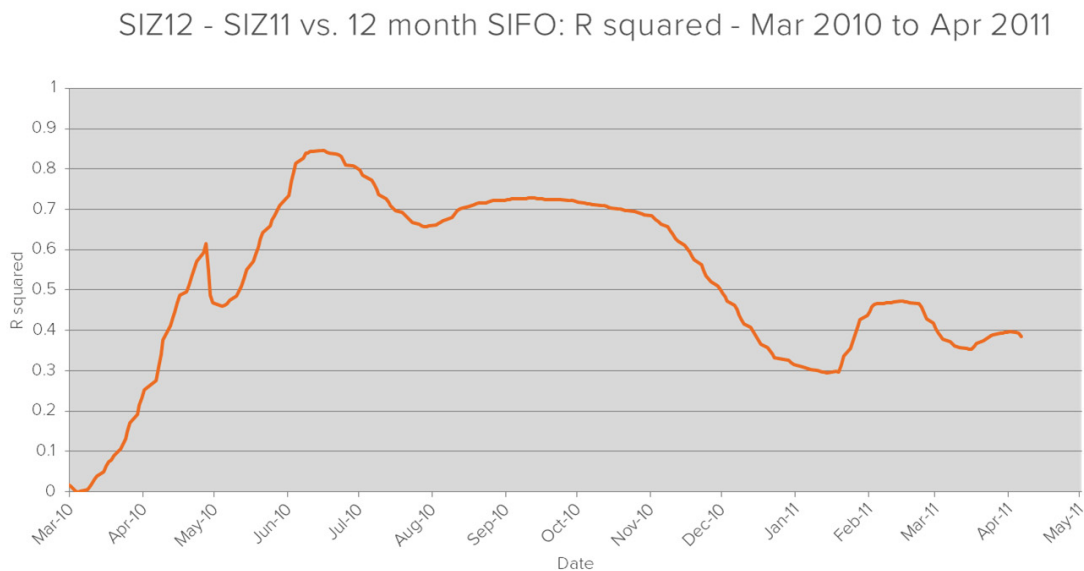
185. In an econometric framework, R squared of a regression model is roughly reflective of how much volatility in the dependent variable could be explained by the independent variable, *e.g.*, in our case, a 0.8 R squared means that roughly 80% of the volatility in silver futures spread could be explained by SIFO.

186. In a normal market without manipulation, one would expect that the volatility of silver futures spread should always be partially explained by the volatility of SIFO even though the correlation between the two might vary across time.

187. A consistent decrease in the R squared for a period of time is potentially indicative of a divergence between the two time series caused by manipulation.

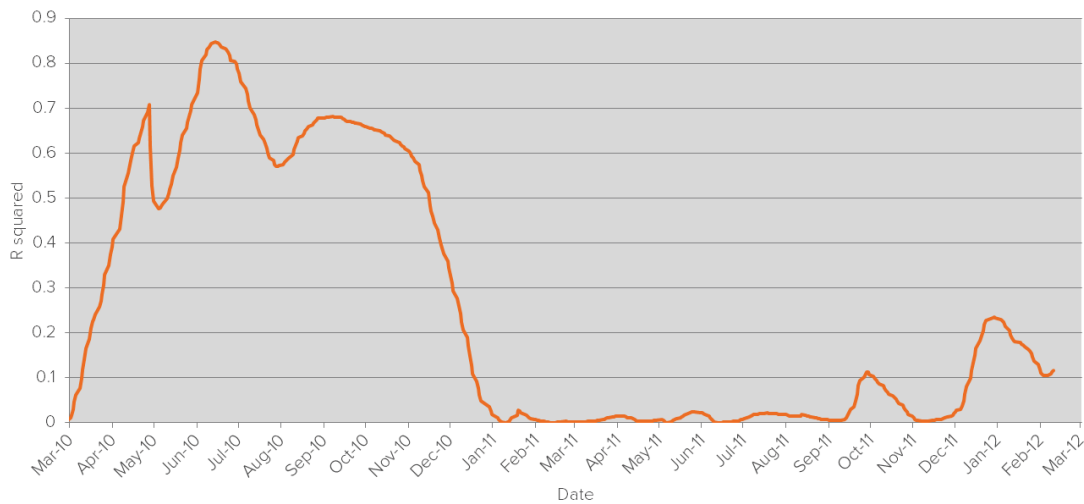
188. As shown in the following graphs, the rolling R squared of the regression model dropped significantly at the end of 2010 and bounced back gradually after May 2011.

189. The bouncing back of the rolling R squared is, from a data point of view, a sign of no fundamental structural change in the market that can permanently alter the behavior of the regression model.



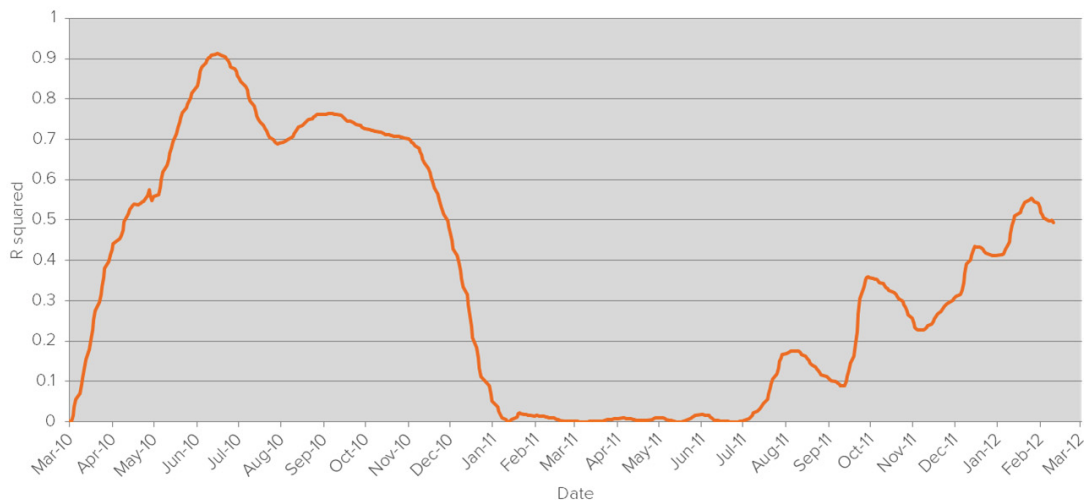
190. The R squared of the rolling model for the December 12 – December 11 spread built up to around 70% until the end of 2010 and dropped dramatically to around 40% until April 2011.

SIZ13 - SIZ12 vs. 12 month SIFO: R squared - Mar 2010 to Mar 2012



191. The R squared for the December 13 – December 12 spread built up to around 70% until the end of 2010 and dropped significantly to 0.

SIZ14 - SIZ13 vs. 12 month SIFO: R squared - Mar 2010 to Mar 2012



192. The R squared for the December 14 – December 13 spread built up to around 70% until the end of 2010 and dropped dramatically to 0 before increasing again in late 2011.

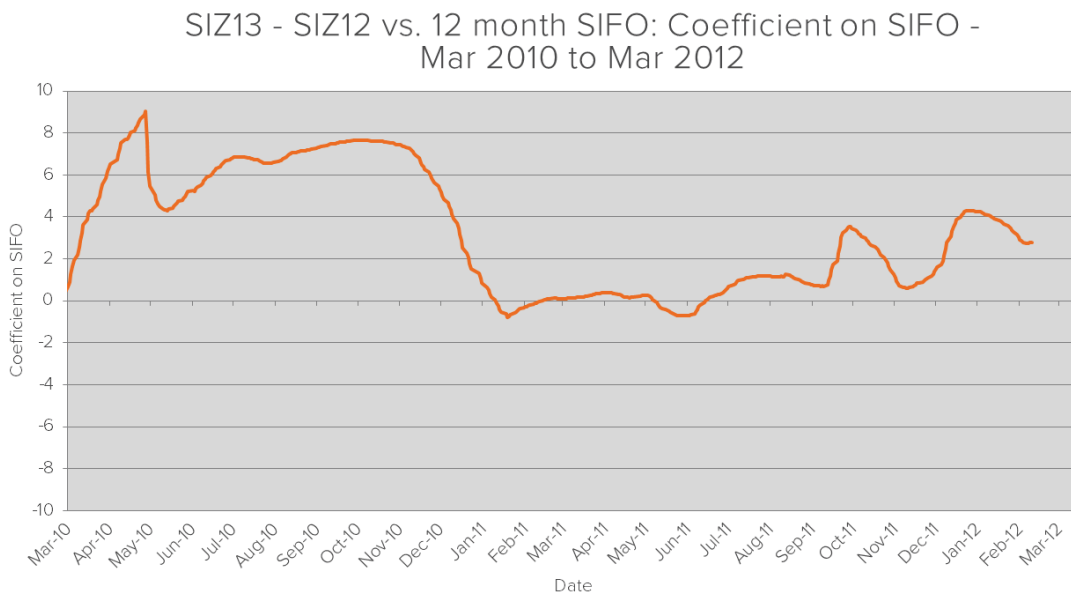
193. Next, Plaintiffs' consulting expert plotted the rolling coefficients on SIFO and the

significance of the coefficients shown by the t-statistics. The coefficient is a measure of the correlation between silver futures spread and SIFO, *e.g.*, a coefficient of 1.3 means that a 1% change in SIFO will change the silver futures points by roughly 1.3%. The t-statistic is a measure of the statistical significance of the coefficient on SIFO. The larger the absolute t-statistic, the higher the significance of the correlation.

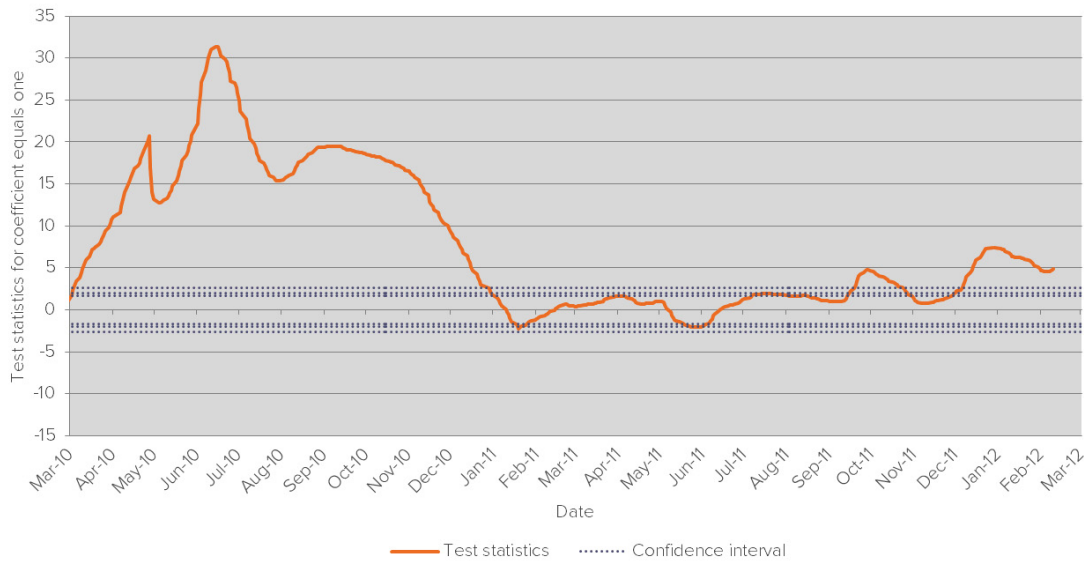
194. Plaintiffs' consulting expert plotted the 90%, 95% and 99% confidence intervals together with t-statistics. A t-statistic falling outside the confidence intervals means that the coefficient is statistically significant.

195. As shown in the following graphs, the coefficient on SIFO diminished to around 0 from January 2011 to May 2011. The significance of the coefficient also diminished in the same time period meaning that there is no statistical evidence showing that the coefficient is not 0.

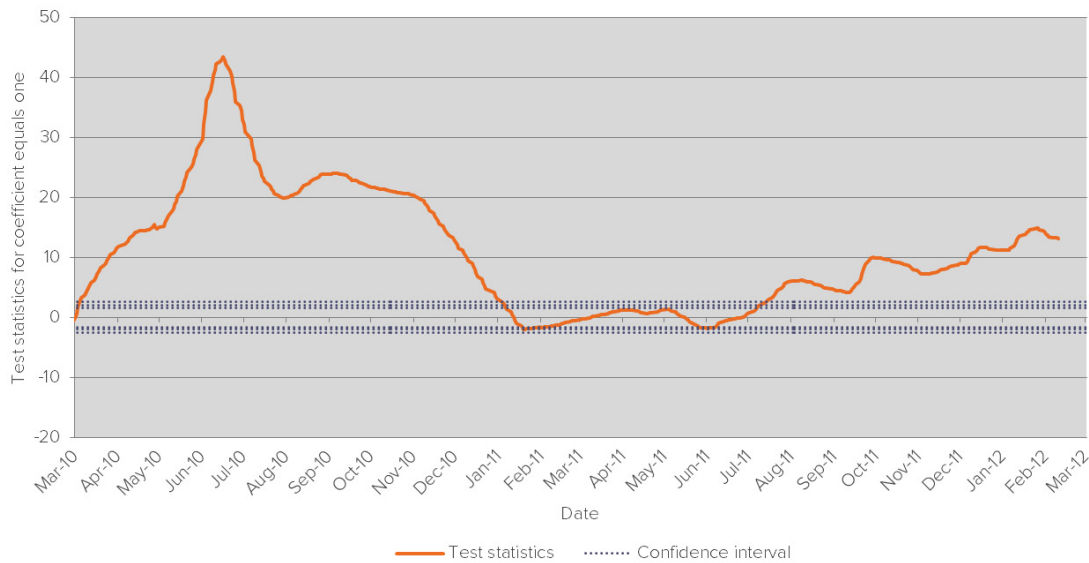
196. It is worth mentioning that the coefficient significantly moved away from 0 after May 2011. This is not what one would expect if the market is altered permanently by any fundamental structural changes.



SIZ14 - SIZ13 vs. 12 month SIFO: Significance of Coefficient -
Mar 2010 to Mar 2012



SIZ14 - SIZ13 vs. 12 month SIFO: Significance of Coefficient -
Mar 2010 to Mar 2012



197. Next, Plaintiffs' consulting expert tested the hypothesis that the coefficient on SIFO equals to 1. This is equivalent to testing whether the silver futures spreads are on average close to the forward points implied by SIFO on the same day.

198. Plaintiffs' consulting expert plotted the t-statistics of the tests together with the 90%, 95% and 99% confidence intervals and values that fall outside the intervals mean that

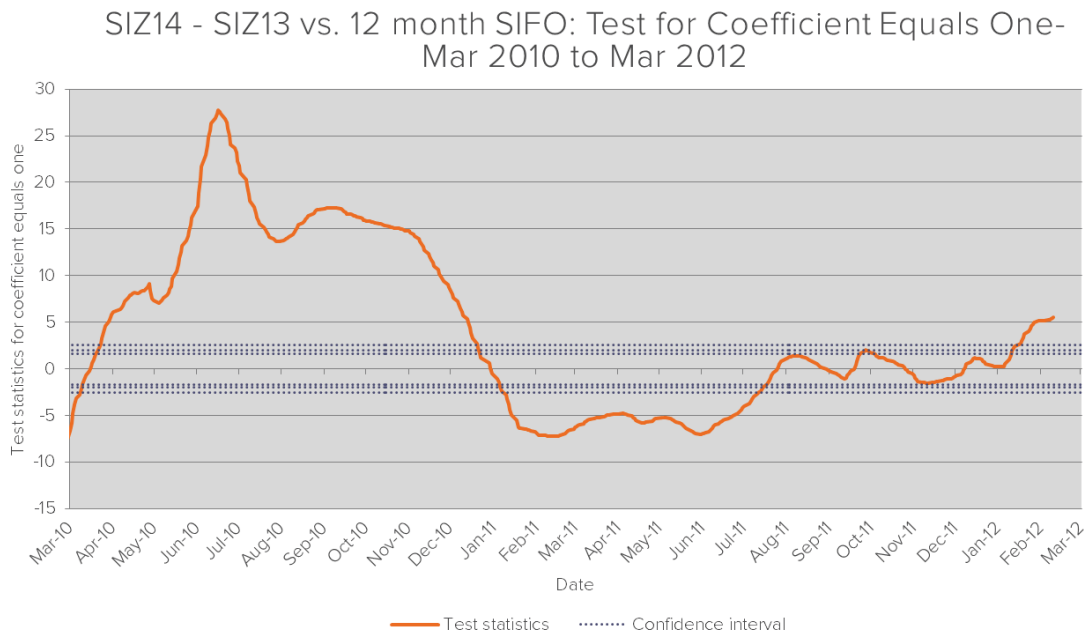
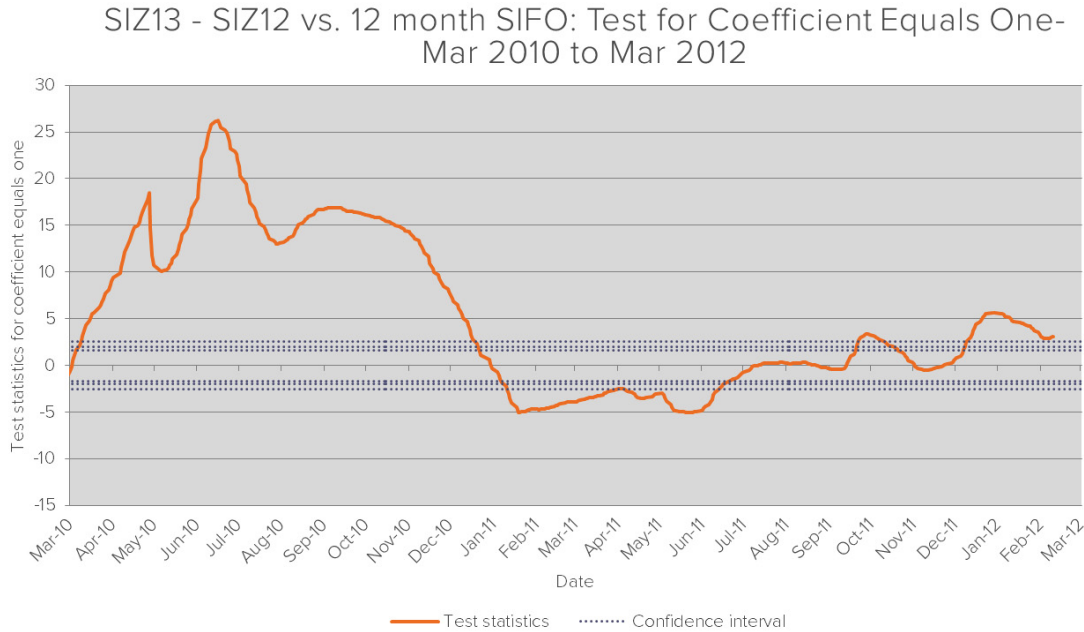
Plaintiffs' consulting expert could reject the hypothesis that silver futures spreads are similar to SIFO.

199. As shown in the following graphs, the t-statistics moved sharply into the confidence intervals until the end of 2010 meaning that the silver futures spread is getting increasingly closer to SIFO at the time.

200. The t-statistics then stayed outside the confidence intervals for the whole period from January 2011 to May 2011 indicating that the two are no longer similar to each other.

201. This is potentially a sign of silver futures settlements being manipulated given the fact that the t-statistics stayed within the confidence intervals for most of the times after May 2011 which indicates that the two forward points were converging to each other again.

202. It is worth mentioning that the reason why the test statistics were also mostly outside the confidence intervals is that the silver futures spreads were much more sensitive to the corresponding SIFO at the time. This is because the coefficient on SIFO was highly significant with a value that is much bigger than 1 (*e.g.*, a significant coefficient of 3 means a 1% change in SIFO will cause a 3% change in silver futures spreads).



c. Analysis of Silver Futures Settlement – Test for Structural Break

203. Plaintiffs' consulting expert also tested for "structural breaks" in the SIFO and silver futures spread relationship. The analysis found, first, that there are distinct structural breaks around the beginning of 2011 in the difference of silver future spreads and SIFO. Second,

the first structural break, which is highly statistically significant, is most likely to have happened just before the beginning of 2011. And third, that this phenomenon of structural breaks is not matched by the release of new information with the same size and significance is potentially a sign of silver futures settlements being manipulated.

204. A structural break can be defined, in broad terms, as a statistically significant change in the process governing a particular time series. In finance, structural breaks typically occur with the arrival of new information, ranging from the benign, *e.g.*, unexpected earnings results for a corporation, to the more extreme, *e.g.*, the bankruptcy of Lehman Brothers in 2008.

205. Structural breaks here would include sharp changes in the difference between silver futures spreads and SIFO, something Plaintiffs' consulting expert uncovered on a consistent basis from January 2011 to May 2011.

206. As such, the tests for structural breaks presented here are aimed to complement the previous analysis of anomalous silver futures spreads activity starting from January 2011. Specifically, Plaintiffs' consulting expert conducted a QLR test and a Chow test for structural breaks for the period from March 2010 to March 2012.

207. The results of the QLR test based on a 99% confidence interval for $SIZ_{12} - SIZ_{11} - SIFO$, $SIZ_{13} - SIZ_{12} - SIFO$ and $SIZ_{14} - SIZ_{13} - SIFO$ are presented below. As shown in the following tables, the first structural breaks happen immediately before 2011. These breaks are anomalous and contrary to what one would expect based on the previous relationships.

Time Series	Date of First Structural Break
$SIZ_{12} - SIZ_{11} - SIFO$	Dec 22 nd 2010
$SIZ_{13} - SIZ_{12} - SIFO$	Nov 4 th 2010

SIZ14 – SIZ13 – SIFO	Dec 6 th 2010
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d. Chow Test for Structural Break at the Beginning of 2011

208. The results of the Chow test based on a 99% confidence interval for SIZ12 – SIZ11 – SIFO, SIZ13 – SIZ12 – SIFO and SIZ14 – SIZ13 – SIFO are presented below.

209. Here the test is whether there exist statistically significant structural breaks before 2011, at the beginning of 2011 and after May 2011.

210. As shown in the following tables, the null hypothesis that there is no structural break at the beginning of 2011 can almost always be rejected.

Time Series	Significant Structural Break?		
	Before 2011	At the Beginning of 2011	After May 2011
SIZ12 – SIZ11 – SIFO	NO	YES	NO
SIZ13 – SIZ12 – SIFO	NO	YES	NO
SIZ14 – SIZ13 – SIFO	NO	YES	NO

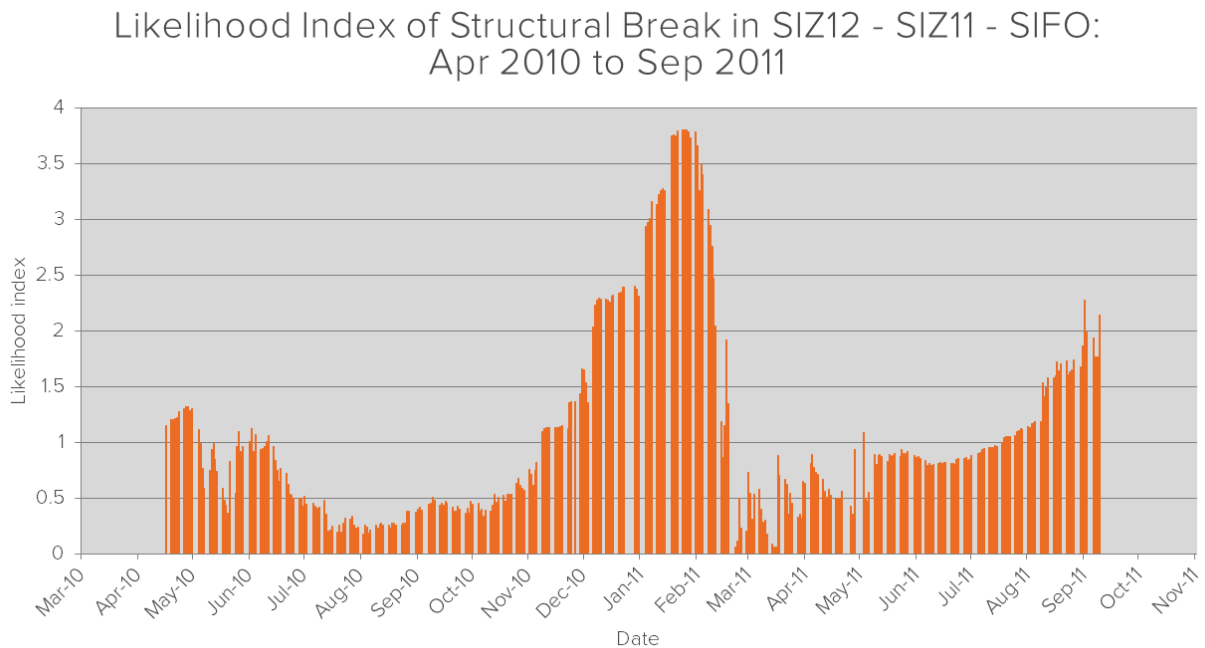
e. Likelihood Index of Structural Break at the Beginning of 2011

211. Plaintiffs' consulting expert next created an index that represents the likelihood of structural breaks being observed from April 2010 to September 2011 in the time series of SIZ12 – SIZ11 – SIFO, SIZ13 – SIZ12 – SIFO and SIZ14 – SIZ13 – SIFO.

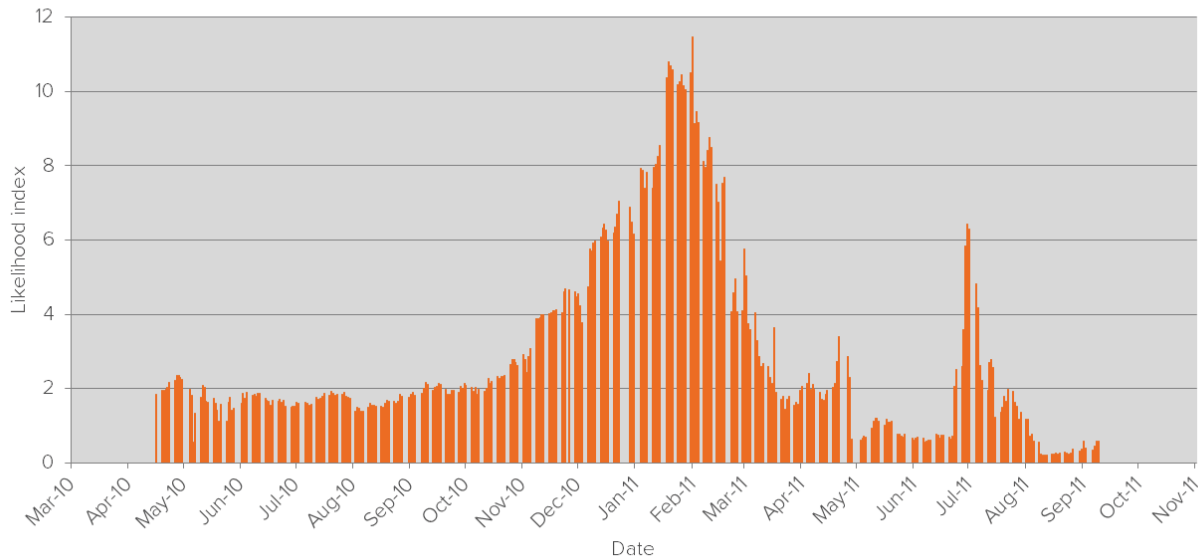
212. This likelihood index is a measure of the statistical confidence that a structural break has occurred. This index is calculated from the structural break test statistics for that day

whereby a higher value of the index indicates a greater likelihood that a structural break occurred. As shown in the following charts, the likelihood index of structural breaks is at a local maximum around the beginning of 2011.

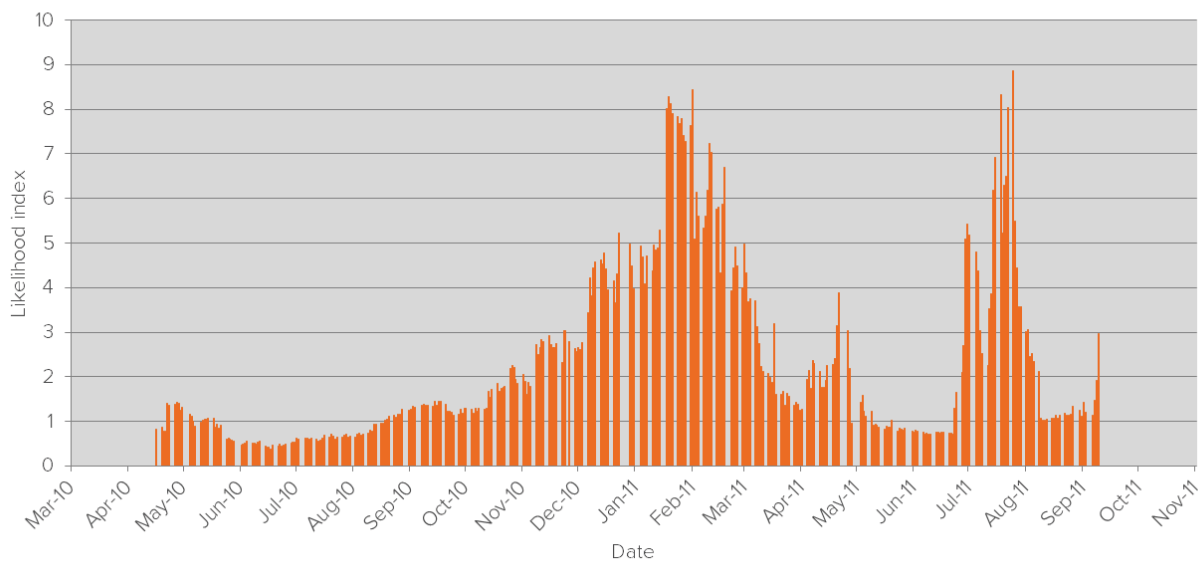
213. This likelihood index shows that both before and after this period, there is no statistical support of structural breaks, meaning the relationship between SIFO and silver spreads is strong outside of the period.



Likelihood Index of Structural Break in SIZ13 - SIZ12 -
SIFO: Apr 2010 to Sep 2011



Likelihood Index of Structural Break in SIZ14 - SIZ13 -
SIFO: Apr 2010 to Sep 2011



214. Plaintiffs' consulting expert found that the likelihood index is not representative of a shock created by the arrival of new information. This is because new information will be absorbed by the market immediately and the likelihood index will not stay at a very high level for months if the structural break was caused by arrival of new information.

215. The movement of the likelihood index is also not in line with a fundamental change in the market given the fact that the likelihood returned to a very low level after May 2011.

f. Autoregressive Models

216. Plaintiffs' consulting expert next performed an analysis based on autoregressive models. The analysis, which is presented below, presents a number of conclusions. First, the divergence between silver futures spreads and SIFO was highly anomalous for historical prices from January 2011 to May 2011. Second, the difference between silver futures spreads prediction errors and SIFO prediction errors is potentially indicative of a consistent manipulation in the December silver futures settlements for at least from January 2011 to May 2011.

g. Mean Squared Prediction Error

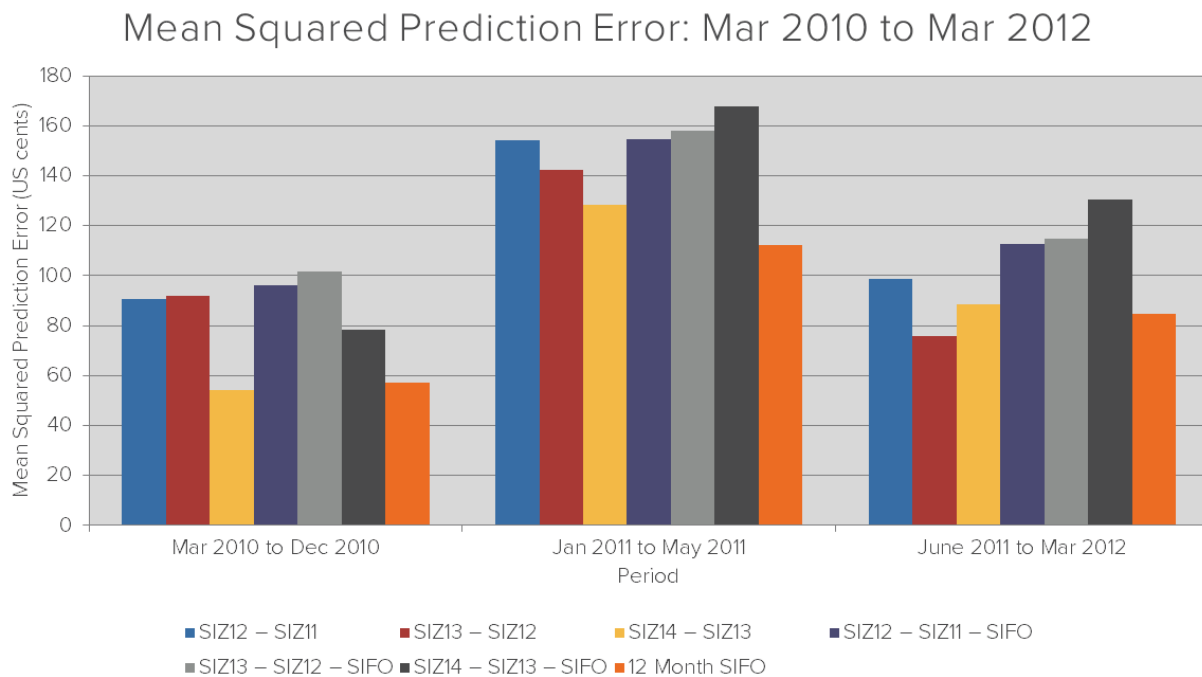
217. Plaintiffs' consulting expert then constructed "Mean Squared Prediction Error" statistics that measure how current silver futures spreads and 12 month SIFO differ from the values predicted by their corresponding AR models. Specifically, the higher the mean squared prediction error, the lower the predicting power of past values.

218. As shown in the following tables, the mean squared prediction errors for silver futures spreads are much higher than that of 12 month SIFO during the period from January 2011 to May 2011.

Time Series	Mar 2010 to Dec 2010	Jan 2011 to May 2011	Jun 2011 to Mar 2012
SIZ12 – SIZ11	90	150	100
SIZ13 – SIZ12	90	140	80
SIZ14 – SIZ13	50	130	90

SIZ12 – SIZ11 – SIFO	100	150	110
SIZ13 – SIZ12 – SIFO	100	160	110
SIZ14 – SIZ13 – SIFO	80	170	130
12 Month SIFO	60	110	80

219. That is, the above table shows that the Mean Squared Prediction Error increased significantly from January 2011 to May 2011 and the increase in silver futures spreads is much higher than the increase in SIFO.

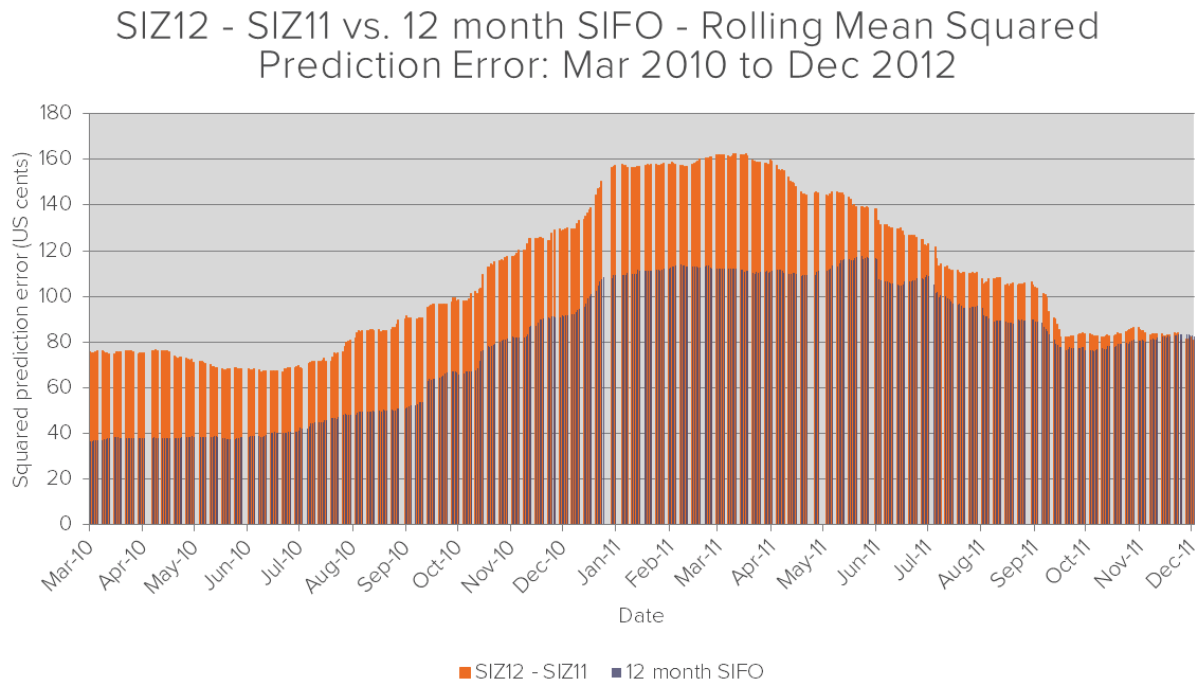


220. The table above shows that the Mean Squared Prediction Error increased significantly from January 2011 to May 2011 and the increase in silver futures spreads is much higher than the increase in SIFO.

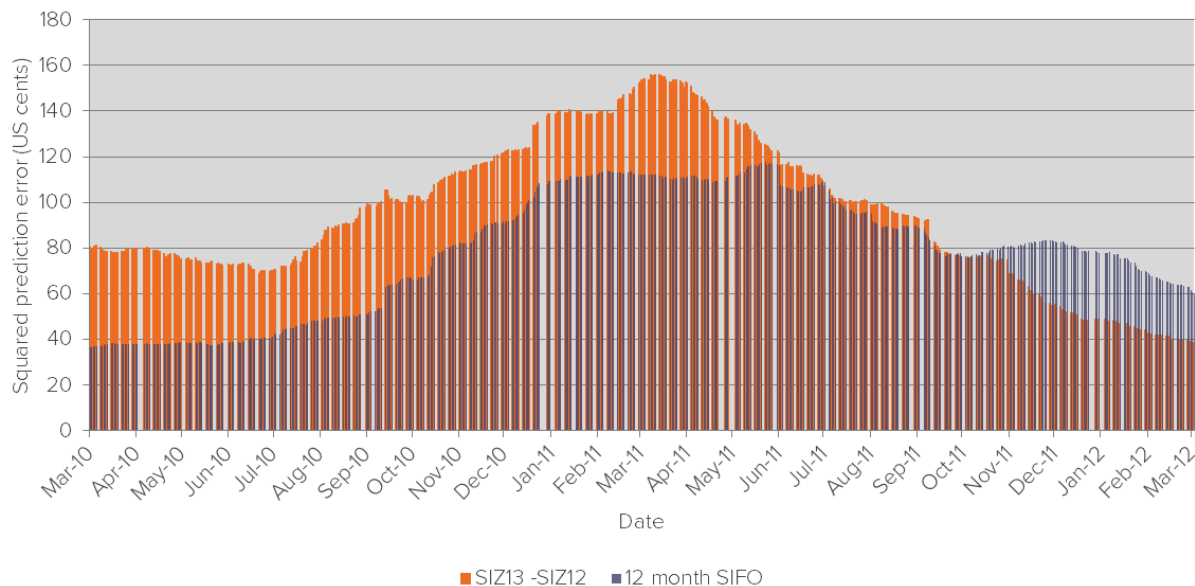
h. Rolling Mean Squared Prediction Error

221. Plaintiffs' consulting expert also plotted the rolling average of Mean Squared Prediction Error of silver futures spreads and 12 month SIFO using a rolling window of 180 days.

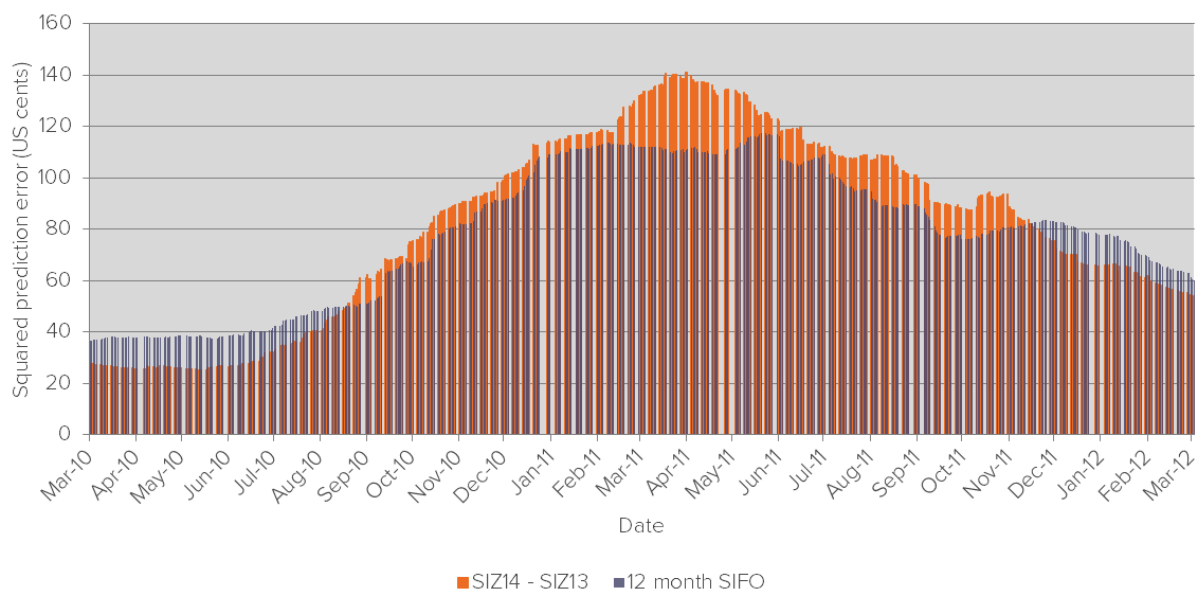
222. The rolling Mean Squared Prediction Error reflects daily movement and gives more detailed information that is not captured by the graphs shown above. As shown in the following graphs, the gap between the rolling mean squared prediction errors of silver futures spreads and 12 month SIFO increased significantly during January 2011 and May 2011.

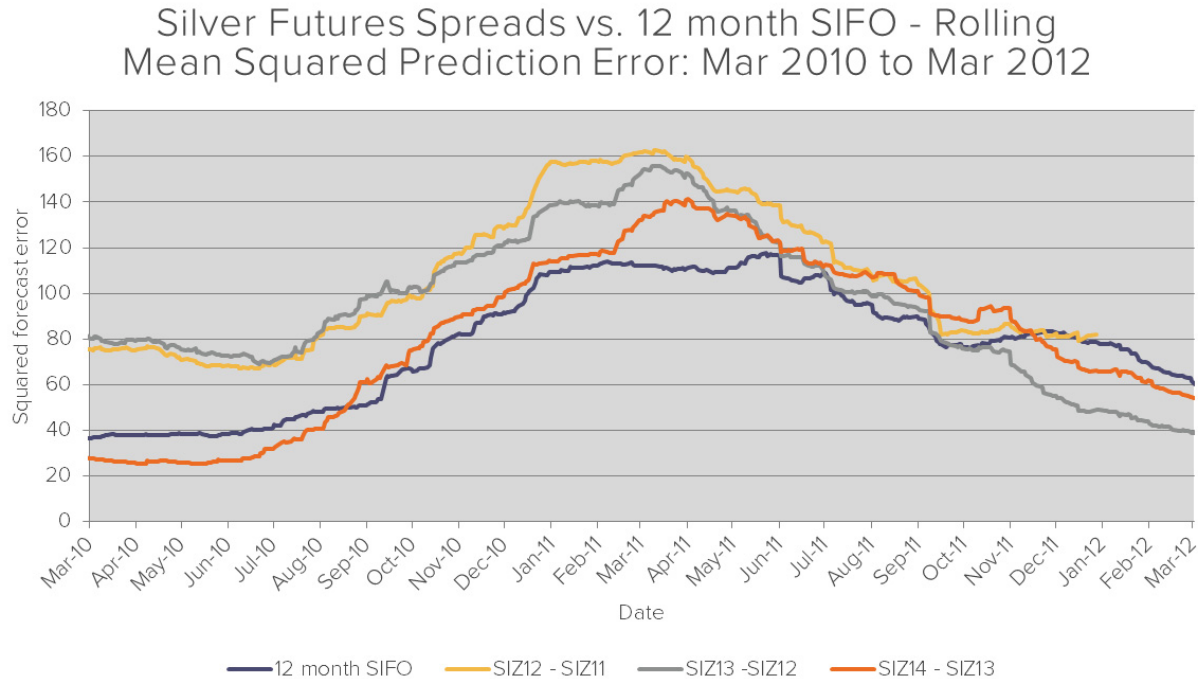


SIZ13 - SIZ12 vs. 12 month SIFO - Rolling Mean
Squared Prediction Error: Mar 2010 to Mar 2012



SIZ14 - SIZ13 vs. 12 month SIFO - Rolling Mean
Squared Prediction Error: Mar 2010 to Mar 2012





i. Analysis on Aggregated Silver Forward Points

223. Plaintiffs' consulting expert next performed an analysis comparing various silver forward points to the silver futures spreads primarily at issue in this complaint. The analysis, presented below, allowed for a number of interesting conclusions: (1) the December silver futures are significantly different from all other silver forward points combined during the period from January 2011 to May 2011; and (2) the behavior of December silver futures spreads is potentially a sign of December silver futures settlements being manipulated if there was a dominant player in this market during the settlement period.

224. First, Plaintiffs' consulting expert examined the absolute difference from SIFO of the aggregated silver forward points versus the December silver futures spreads. The expert then compared the silver futures spreads derived from December silver futures contracts of 2011, 2012 and 2013 with aggregated silver futures forward points that are calculated from all available futures contracts (*e.g.*, March, May, July, and September silver futures contracts) and

all other similar silver forward points in the market at the time. The data source is Thomson Reuters Tick History (“Reuters”). This data includes silver forward points implied from all available silver trading activities such as lending, futures trading and swap trading, etc. This data is collected and aggregated by Reuters in a way that should reflect (mathematically) the average level of the silver market.

225. By comparing the December silver futures spreads to the aggregated silver forward points, the analysis shows that the December silver futures contracts behave differently from the average of the rest of the silver market, including the OTC market. In other words, this analysis is not aiming to compare the December silver futures spreads with each specific trading activity in the rest of the market such as the silver futures spreads of March, May, July, and September, but rather to the average of the rest of the market as a whole. For this reason, the conclusion does not imply that anomalous behavior only happened in the December silver futures contracts.

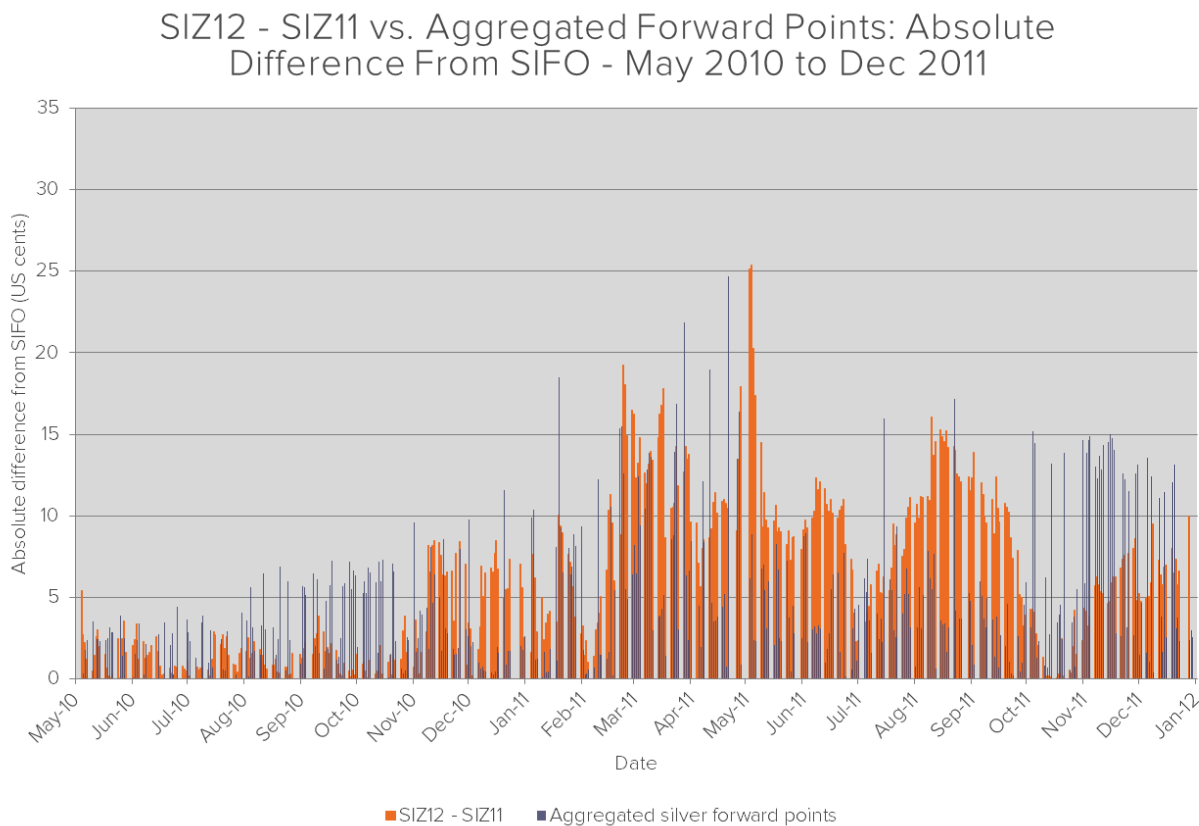
226. As shown in the following graphs, the silver futures spreads derived from December futures contracts diverged from aggregated silver forward points from the beginning of 2011.

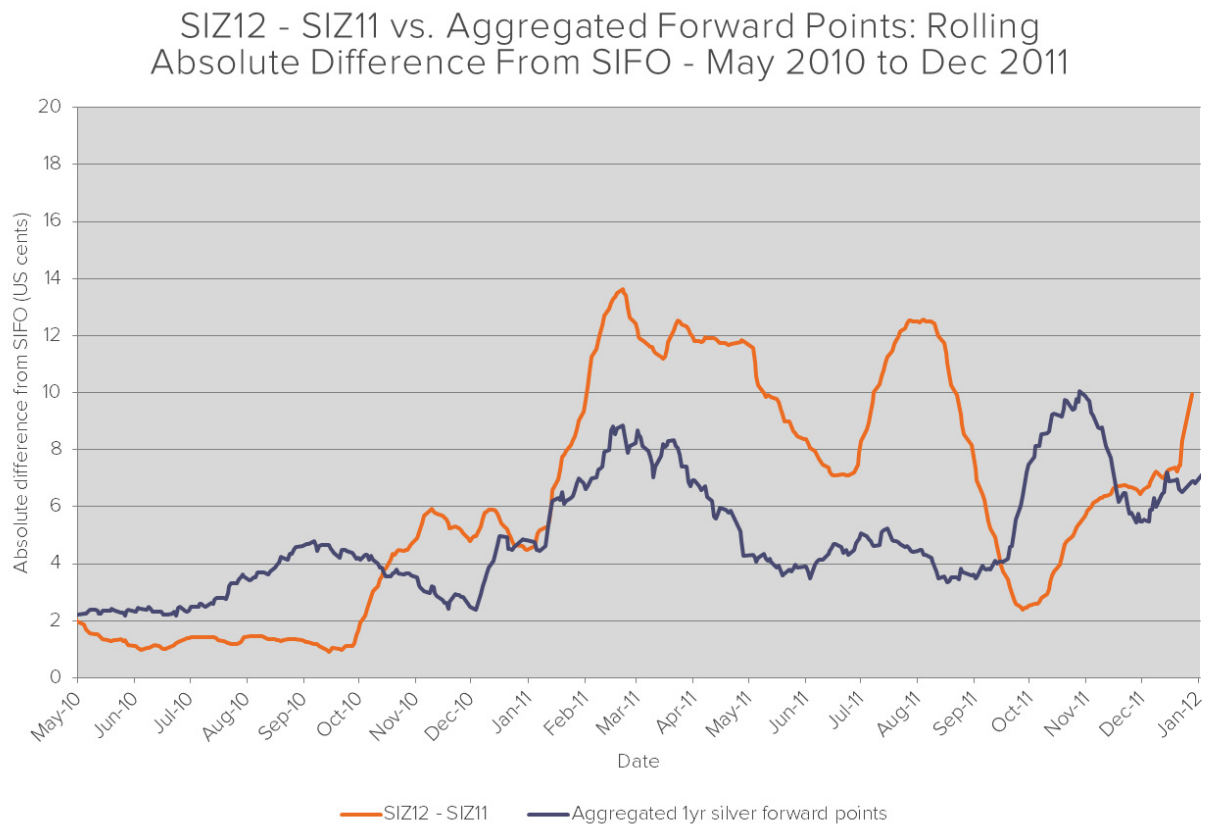
227. This is consistent with the December silver futures spread contracts of 2011 to 2012, and most especially of 2012 to 2013 and 2013 to 2014, being manipulated during January 2011 to May 2011. What is more, since the December silver futures spreads are fully included in the aggregated silver forward points’ calculation, there is an increase in the absolute difference between SIFO and aggregated silver forward points. The difference, however, is much smaller than the difference between SIFO and the December silver futures spreads because the OTC market is, on average, behaving normally.

228. This distinctive behavior is also not explained by the arrival of new information because it is highly unlikely that any information will only affect the December silver futures contract given the fact that the aggregated silver forward points includes analogous silver futures points that were experiencing the same market condition at the time.

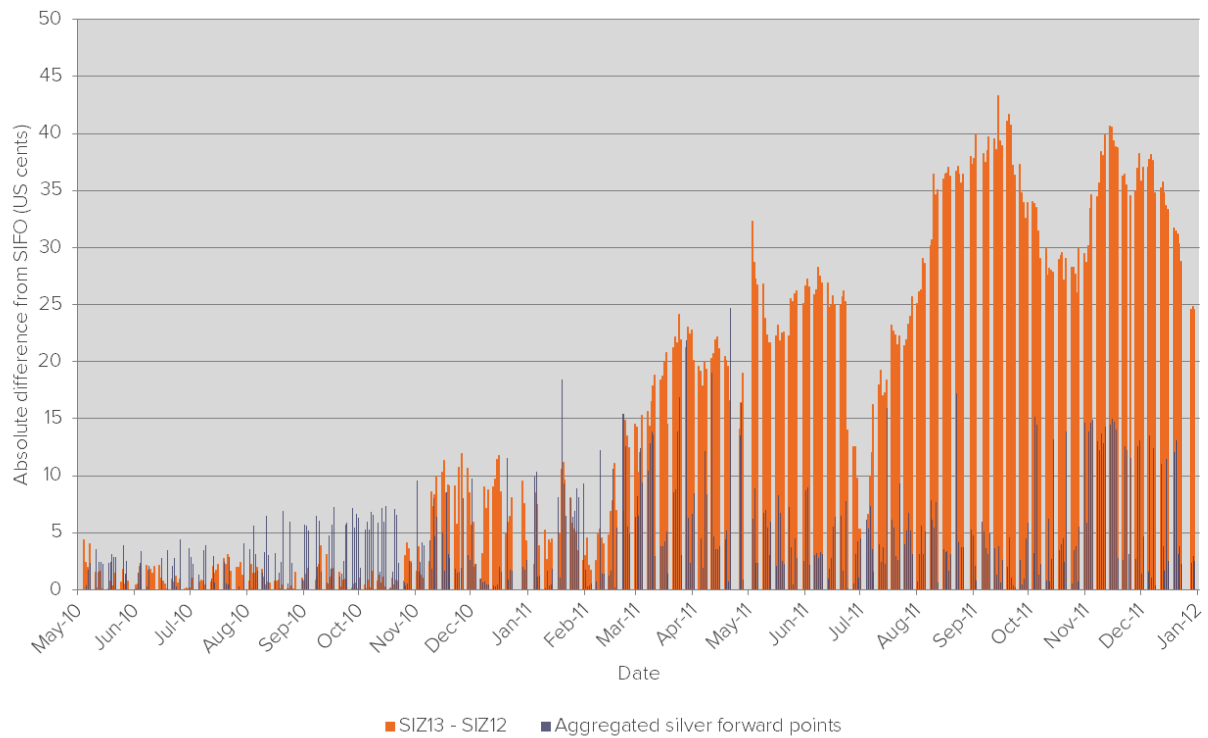
229. As shown in the following graphs, the difference between December silver futures spreads and aggregated silver forward points was roughly 2 cents before 2011 and increased significantly to around 10 to 15 cents from 2011 onwards.

230. The two absolute differences also started to converge to each other after May 2011 indicating that this phenomenon is not due to fundamental structural change that is exclusively specific to the December silver futures contracts.

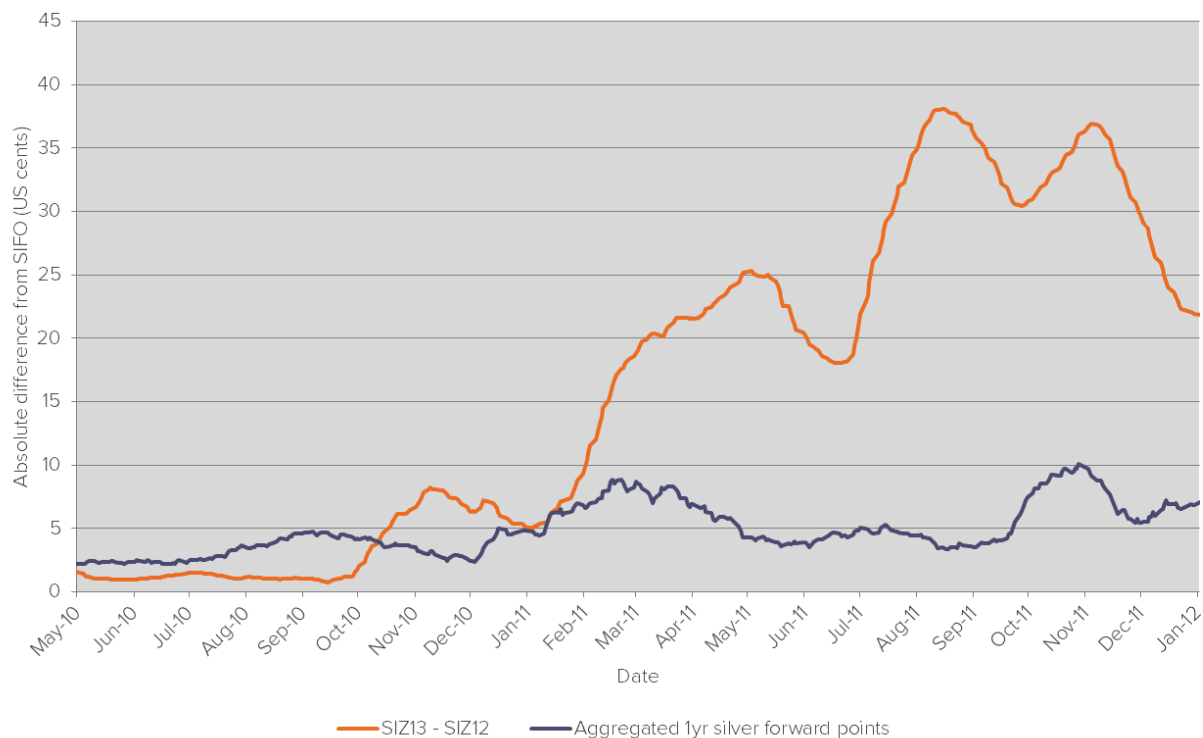




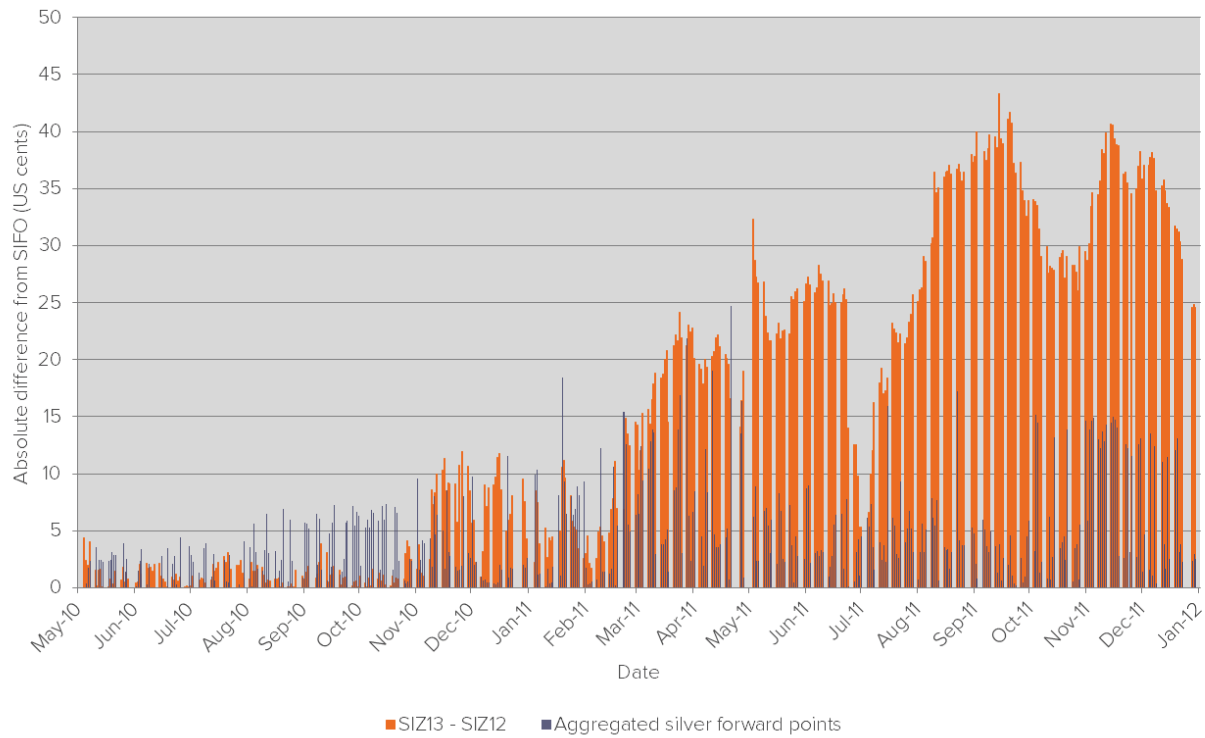
SIZ13 - SIZ12 vs. Aggregated Forward Points: Absolute
Difference From SIFO - May 2010 to Dec 2011

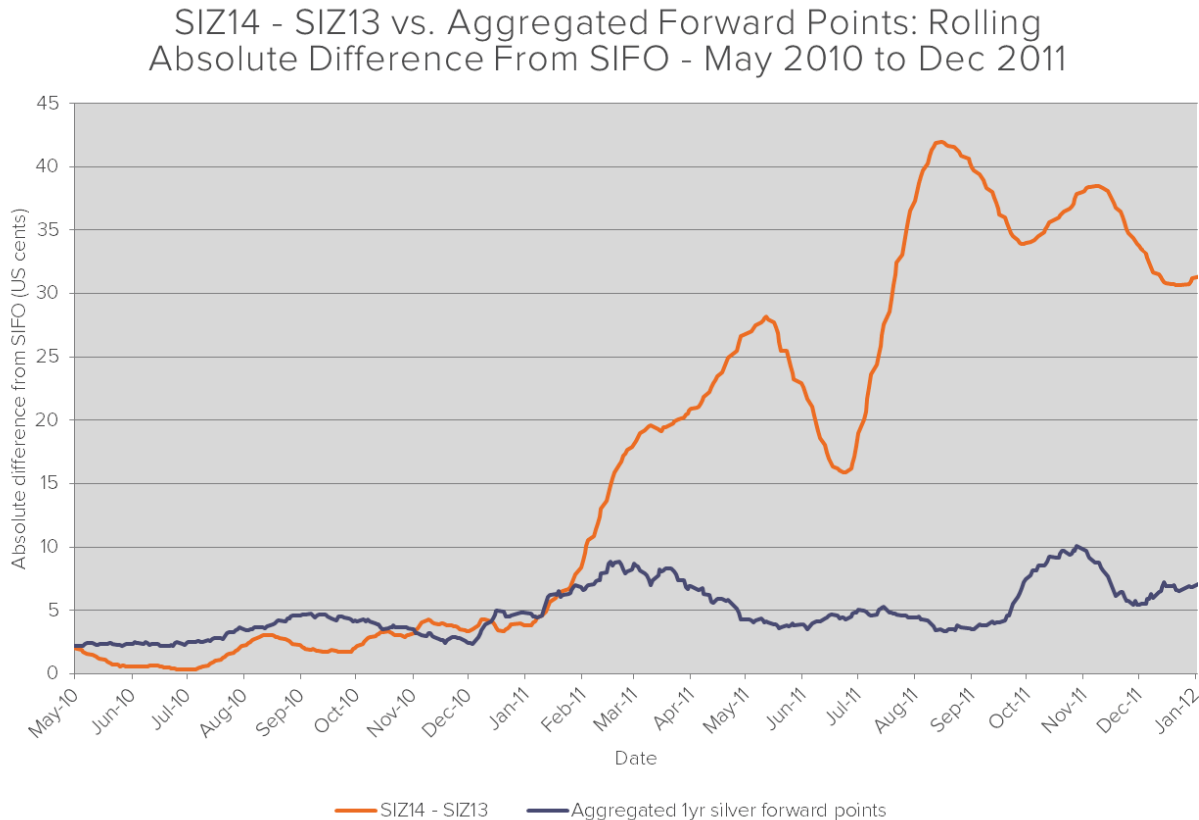


SIZ13 - SIZ12 vs. Aggregated Forward Points: Rolling
Absolute Difference From SIFO - May 2010 to Dec 2011



SIZ14 - SIZ13 vs. Aggregated Forward Points: Absolute Difference From SIFO - May 2010 to Dec 2011





j. Aggregated Silver Forward Points vs. Silver Futures Spreads – Summary Statistics

231. In this section are presented the summary statistics that quantify how December silver futures spreads and aggregated silver forward points differ from the corresponding SIFO on an average level. Specifically, the average difference from SIFO for two time periods - May 2010 to December 2010 and after January 2011 – is presented.

232. As shown in the following graphs, the difference between SIFO and aggregated silver forward points only changed, on average, by 2 cents after January 2011 while the difference between SIFO and December silver futures spreads changed by approximately 8 to 27 cents.

233. Since the December silver futures spreads are fully included in the calculation of aggregated silver forward points, the 2-cent difference between the SIFO and aggregated silver

forward points is potentially caused by the difference between SIFO and the December silver futures spreads.

234. This is equivalent to the statement that the difference between SIFO and aggregated silver forward points will change by much less than 2 cents after January 2011 if Plaintiffs' consulting expert excluded the effect of the December silver futures spreads.

Time Series	Average difference from SIFO (US cents)	
	May 2010 to Dec 2010	After Jan 2011
SIFO – Aggregated Silver Forward Points	3	5
SIFO – SIZ12 – SIZ11	-2	6
SIFO – SIZ13 – SIZ12	-2	24
SIFO – SIZ14 – SIZ13	-2	25

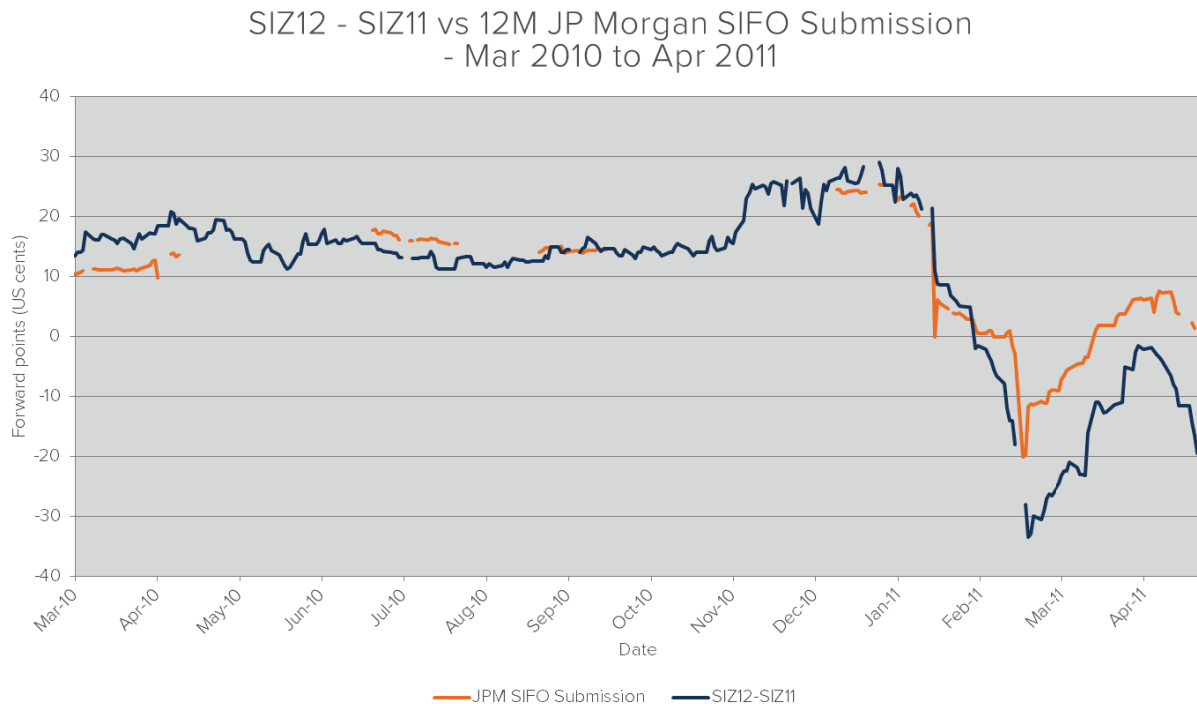
k. Individual SIFO Submissions

235. Plaintiffs' consulting expert analyzed JP Morgan SIFO submissions (it was a SIFO contributor). This was done to determine whether JP Morgan's SIFO submissions were in line with the silver futures spreads. Several conclusions can be drawn from this study. First, the futures spreads were in line with JP Morgan's SIFO submissions before January 2011. Second, after this point there is a clear divergence between JP Morgan (and other SIFO) contributions, similar to what has been seen with the SIFO rate. Third, JP Morgan's submissions are consistently higher than the value submitted by other contributors.

236. Comparing the published SIFO with silver futures spreads allows one to analyze from the viewpoint of the market. However, by looking at JP Morgan's SIFO submissions, one can analyze the silver futures market from JP Morgan's point of view; its SIFO submissions are

representative of what it sees from the silver market (assuming that they were submitting truthfully).

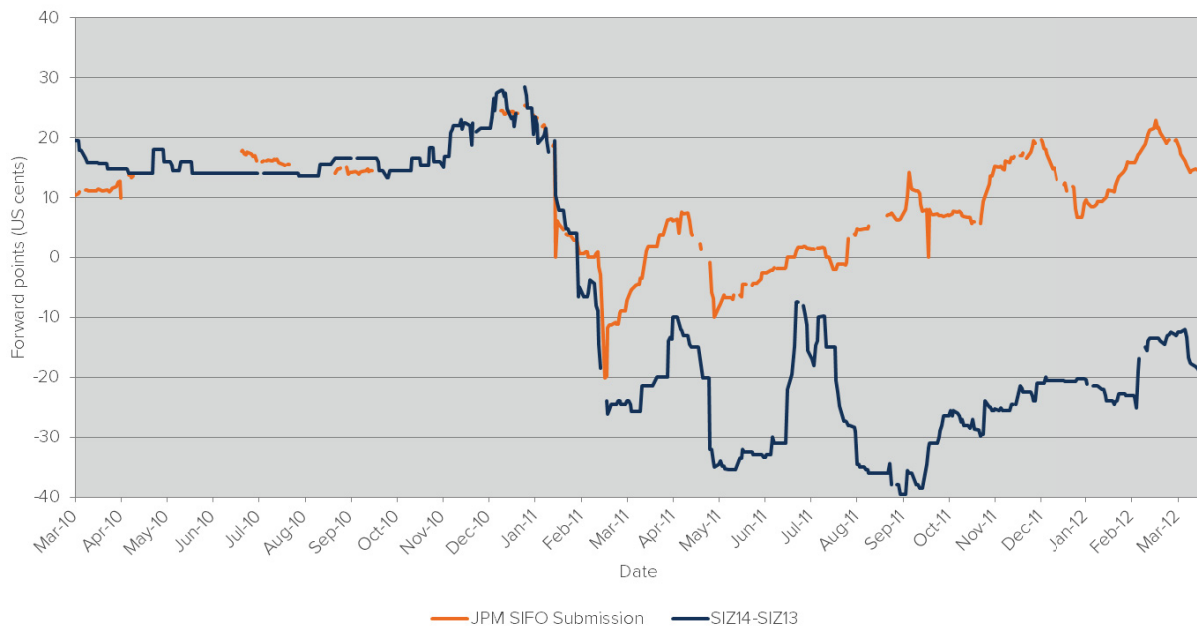
237. It should be noted that there were periods with no data for SIFO submissions. This has caused difficulties in the analysis. However, since the lack of data occurred mostly before 2011, Plaintiffs' consulting expert assumed that SIFO submissions followed the same trend as the published SIFO rate.



SIZ13 - SIZ12 vs 12M JP Morgan SIFO Submission
- Mar 2010 to Mar 2012



SIZ14 - SIZ13 vs 12M JP Morgan SIFO Submission
- Mar 2010 to Mar 2012

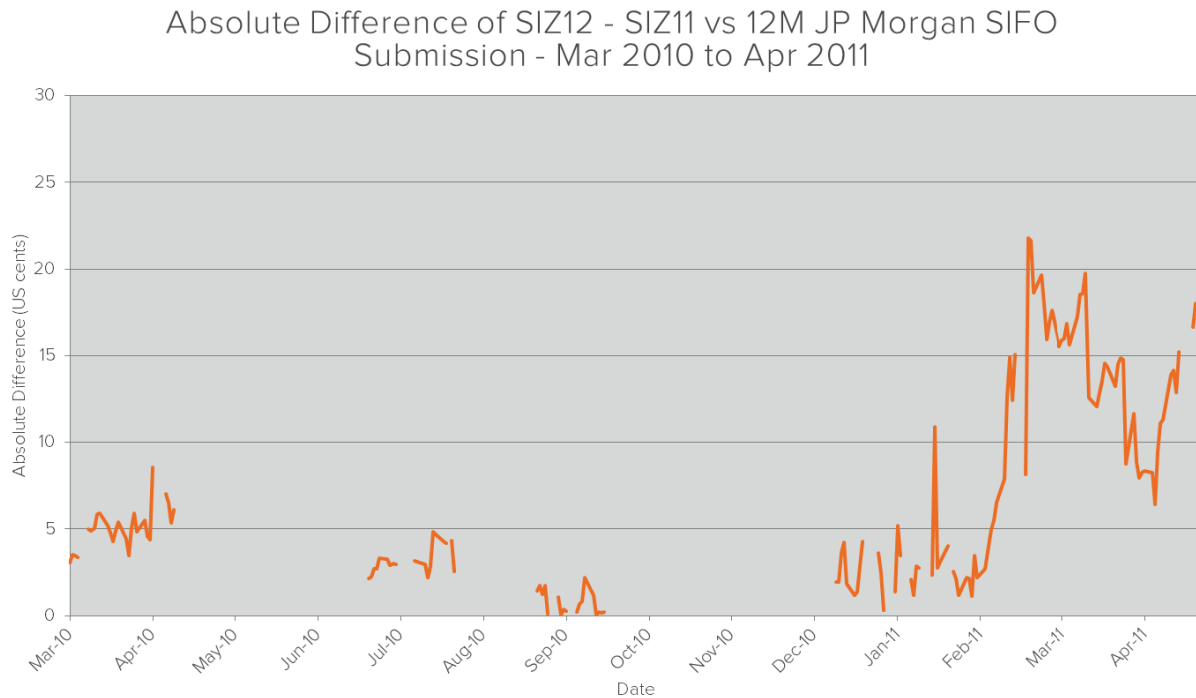


238. By looking at the previous graphs, one can see that before January 2011, silver futures closely followed JP Morgan's SIFO submissions. From January 2011, there is a clear divergence between silver futures spreads and JP Morgan's SIFO submissions. This is similar to

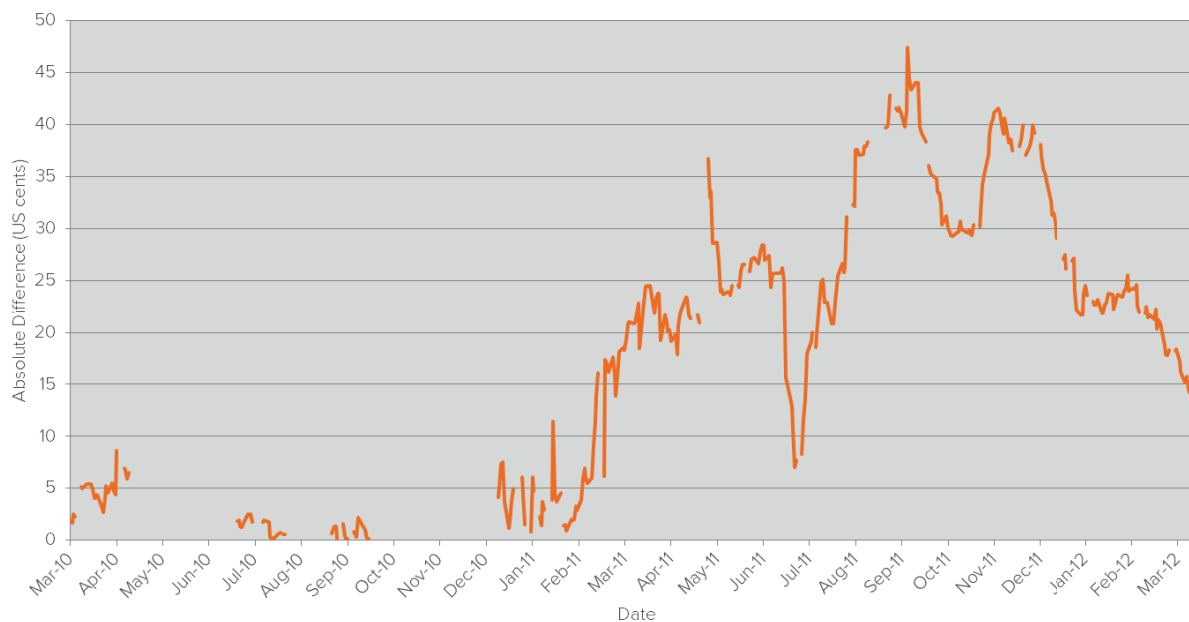
the comparison of the silver futures spreads with the corresponding SIFO generally.

239. This point demonstrates the large difference between what JP Morgan was trading on the silver futures spreads (as alleged herein) and what it was submitting for SIFO.

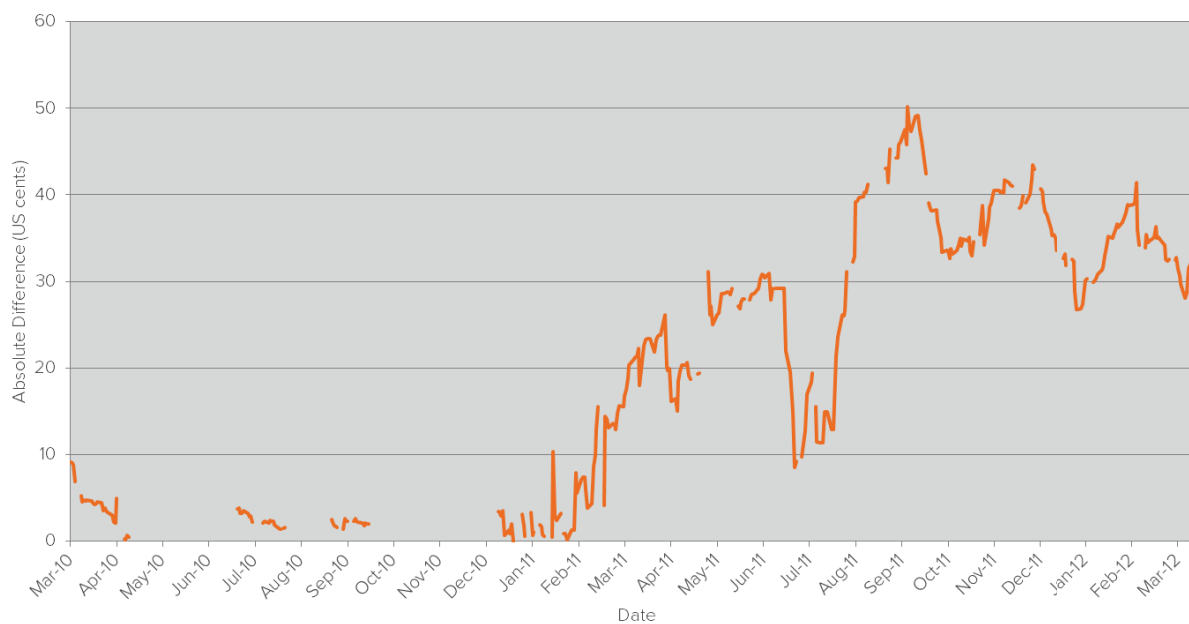
240. The following graphs further highlight this phenomenon by analyzing the absolute differences between JP Morgan's SIFO submissions and the silver futures spreads.

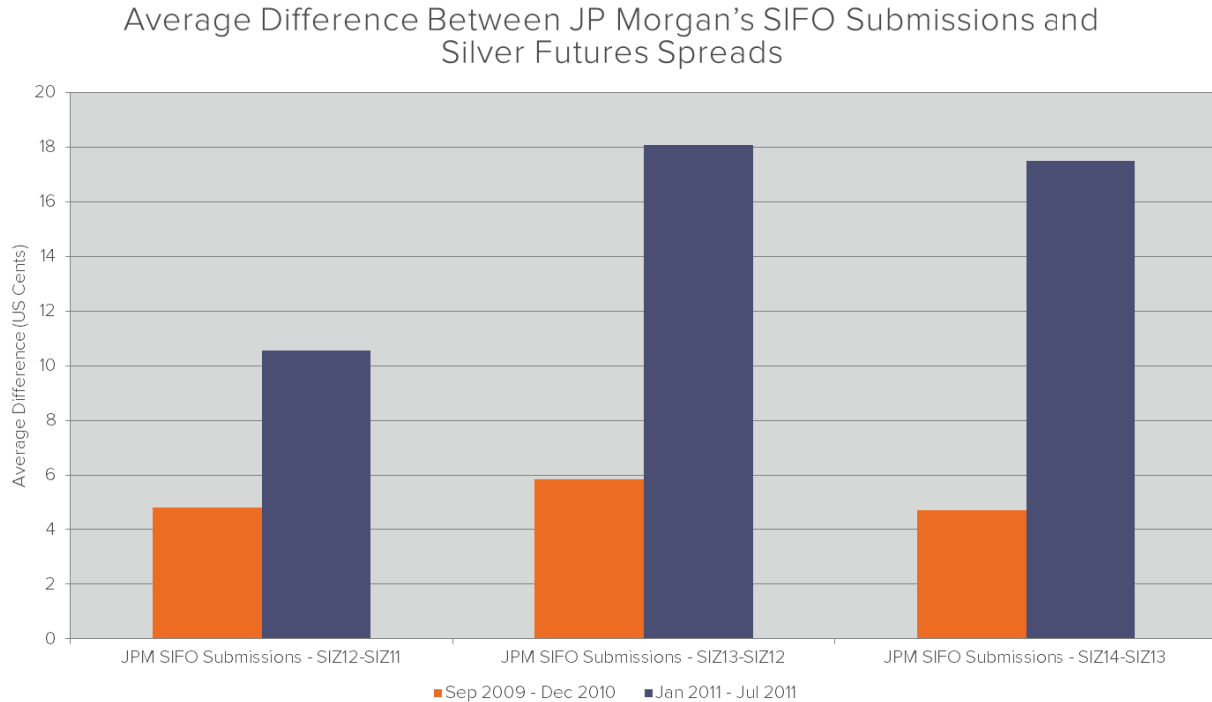


Absolute Difference of SIZ13 - SIZ12 vs 12M JP Morgan SIFO
Submission - Mar 2010 to Mar 2012



Absolute Difference of SIZ14 - SIZ13 vs 12M JP Morgan SIFO
Submission - Mar 2010 to Mar 2012

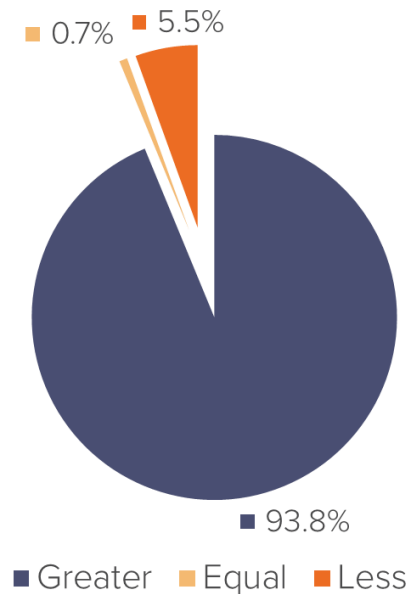




241. As these graphs clearly show, there is a substantial increase in the difference between JP Morgan's SIFO submissions and the silver futures spreads.

242. This difference is further highlighted in the following chart where Plaintiffs' consulting expert looked at two periods: September 2009 to December 2010 and January 2011 to July 2011.

JP Morgan Submission vs SIFO
– Sep 2009 to Aug 2012



243. In order to see if JP Morgan was inflating or deflating SIFO, Plaintiffs' consulting expert compared its submission with the fixed SIFO rate. As one can see, 93.8% of the time JP Morgan's submission is greater than SIFO.

244. In conclusion, assuming that JP Morgan's SIFO submissions are an accurate representation of its view on the silver futures market, this would have caused an even larger disparity than the initial analysis suggested between SIFO and silver futures spreads indicated because of JP Morgan's outlier SIFO submissions. That is, since JP Morgan's SIFO submissions were generally larger than the published SIFO rate, the SIFO – silver futures spread comparison most likely underestimated JP Morgan's potential manipulation.

245. And assuming that futures spreads are a good indication of the prices of trades done by JP Morgan (as alleged herein), one may also assume that JP Morgan has been manipulating future spreads to diverge from its SIFO submissions. This would explain why future spreads entered backwardation to such an extent while SIFO did not.

V. CLAIMS FOR RELIEF

**FIRST CLAIM FOR RELIEF
(Violation of Section 2 of the Sherman Act, 15 U.S.C. § 2)
(Against All Defendants)**

246. Plaintiffs re-allege and incorporate all allegations of this Complaint with the same force and effect as if fully restated herein.

247. In violation of Section 2 of the Sherman Act and Section 4 of the Clayton Act, Defendants entered monopolized and conspired to monopolize the silver futures calendar spread market.

248. Defendants engaged in predatory bidding by which they purchased silver future spreads at prices far in excess of the value of its economic outputs. Defendants have or were in danger of having recouped their losses on this predatory bidding by advantages it gained through forcing the capitulation of Plaintiffs and other market participants in response to higher spread prices resulting from Defendants predatory bidding.

249. As major market participants in the silver futures calendar spread market, Defendants attempted to monopolize and did monopolize that market.

250. Defendants controlled the pricing for COMEX silver futures calendar spreads. They therefore also controlled COMEX settlement prices for non-active silver futures and related derivatives contracts. Defendants' unlawful price control of the COMEX silver futures calendar spreads constitutes monopoly power. The conduct consisted of a concerted effort between and among Defendants in furtherance of which they created artificial prices for silver futures calendar spreads contracts.

251. Defendants used market power to influence COMEX employees to publish artificial prices – prices submitted by Defendants to the COMEX employees when calculating settlement prices for non-active futures contracts.

252. Defendants' conduct and its resulting impact on the silver futures calendar spreads market occurred in or affected interstate and international commerce.

253. The anticompetitive effects of Defendants' conduct far outweigh any ostensible competitive benefits or justifications. Defendants engaged in conduct that intentionally impaired the opportunity of their rivals and that did not further competition. The end goal of such improper behavior was to maintain the monopoly power JP Morgan already held and to gain even more power in the market.

254. Plaintiffs have been injured in their business and property by Defendants' attempted monopolization and monopolization of the silver futures calendar spreads market.

255. Defendants' anticompetitive conduct had severe adverse consequences on competition and price discovery. Plaintiffs and others who traded silver futures calendar spreads and other derivatives linked to the price of silver calendar spreads were deprived of normal, competitive trading patterns and, instead, were subjected to artificially determined prices as a result of Defendants' unlawful and manipulative conduct. As a consequence thereof, Plaintiffs were excluded from the market, suffered financial loss, and were, therefore, injured in their business and property.

256. Plaintiffs are entitled to treble damages for the violations of the Sherman Act alleged herein.

SECOND CLAIM FOR RELIEF
(Violation of N.Y. General Business Law § 340)
(Against All Defendants)

257. Plaintiffs re-allege and incorporate all allegations of this Complaint with the same force and effect as if fully restated herein.

258. N.Y. Gen. Bus. Law § 340(1) prohibits:

Every contract, agreement, arrangement or combination whereby:

A monopoly in the conduct of any business, trade or commerce or in the furnishing of any service in this state, is or may be established or maintained, or whereby

Competition or the free exercise of any activity in the conduct of any business, trade or commerce or in the furnishing of any service in this state is or may be restrained or whereby

For the purpose of establishing or maintaining such monopoly or unlawfully interfering with the free exercise of any activity in the conduct of any business, trade or commerce in the furnishing of any service in this state any business trade or commerce or the furnishing of any service is or may be restrained, is hereby declared to be against public policy, illegal and void.

259. N.Y. Gen. Bus. Law § 340(5) provides:

An action to recover damages caused by a violation of this section must be commenced within four years after the cause of action has accrued. The state, or any political subdivision or public authority of the state, or any person who shall sustain damages by reason of any violation of this action, shall recover three-fold the actual damages sustained thereby, as well as costs not exceeding ten thousand dollars, and any reasonable attorneys' fees. At or before the commencement of any civil action by a party other than the attorney-general for a violation of this section, notice thereof shall be served upon the attorney-general. Where the aggrieved party is a political subdivision or public authority of the state, notice of intention to commence an action under this section must be served.

260. As more fully described above, Defendants' domination of the silver futures calendar spreads market, in contravention of laws preventing anti-competitive and monopolistic

practices, as well as Defendants' predatory bidding, manipulative trading, and inappropriate influence over settlement prices, constitute violations of N.Y. Gen. Bus. Law § 340.

261. Plaintiffs seek actual damages for their injuries caused by these violations in an amount to be determined at trial, and are entitled to have such damages trebled pursuant to N.Y. Gen. Bus. Law § 340.

262. Defendants' willful acts and conduct, as described above, entitle Plaintiffs to an award of attorneys' fees pursuant to N.Y. Gen. Bus. Law § 340(5).

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs pray for relief as follows:

(A) For a judgment awarding Plaintiffs treble damages against Defendants as a result of their unlawful, anticompetitive conduct alleged herein under applicable federal antitrust law, together with prejudgment interest at the maximum rate allowable by law;

(B) For a judgment awarding Plaintiffs actual damages for Defendants' violations of N.Y. General Business Law § 340;

(C) For an award to Plaintiffs of their costs of suit, including reasonable attorneys' and experts' fees and expenses; and

(D) For such other and further relief as the Court may deem just and proper.

JURY DEMAND

Plaintiffs respectfully demand a trial by jury.

Dated: January 28, 2016
New York, New York

KIRBY McINERNEY LLP

By: /s/ David E. Kovel
David E. Kovel
David Bishop

Lauren Wagner Pederson
Thomas Elrod
825 Third Avenue, 16th Floor
New York, NY 10022
Telephone: (212) 371-6600
Facsimile: (212) 751-2540
Email: dkovel@kmlp.com
dbishop@kmlp.com
lpederson@kmlp.com
telrod@kmlp.com